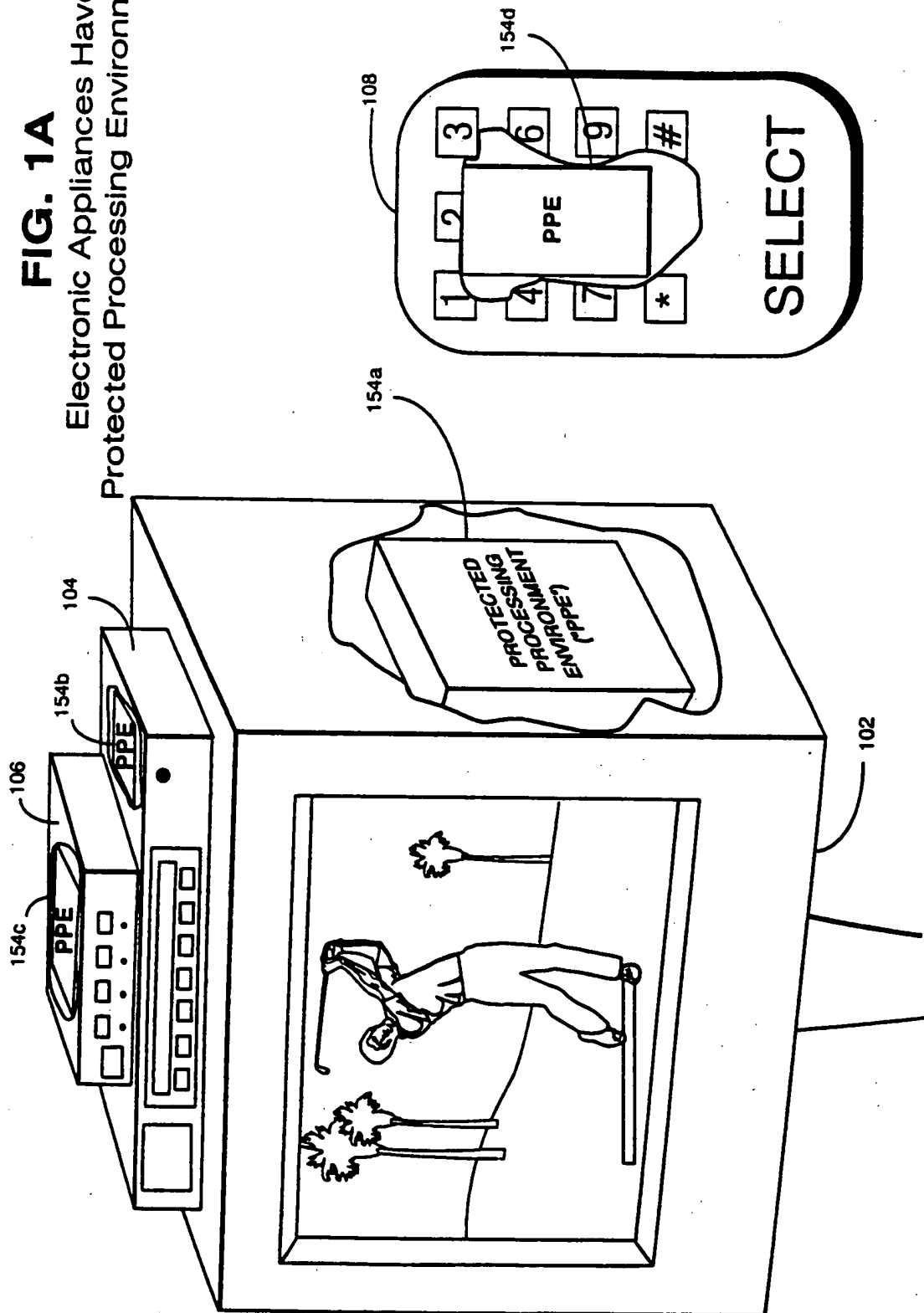


FIG. 1

FIG. 1A
Electronic Appliances Have
Protected Processing Environments



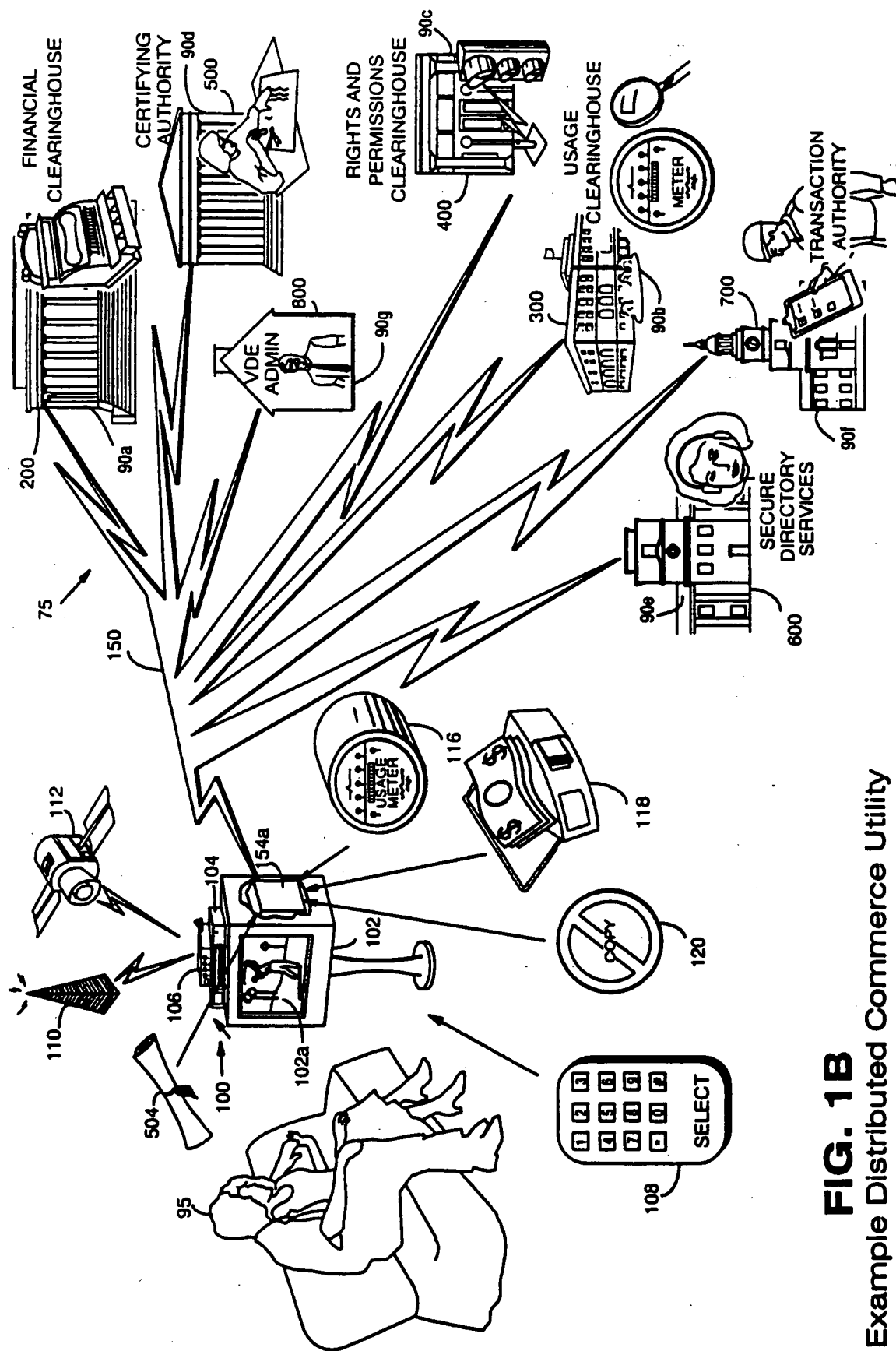


FIG. 1B
Example Distributed Commerce Utility

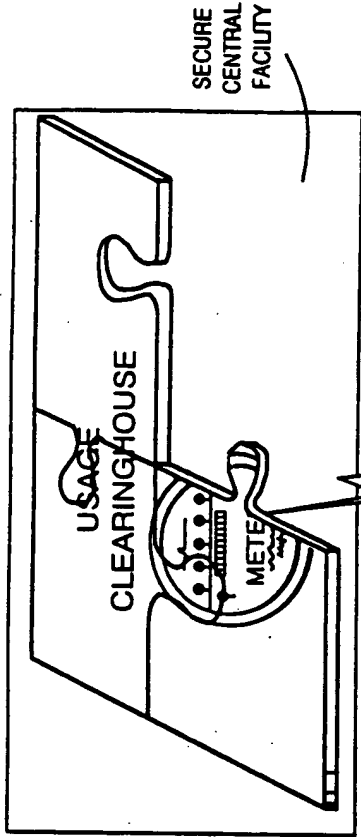


FIG. 2B

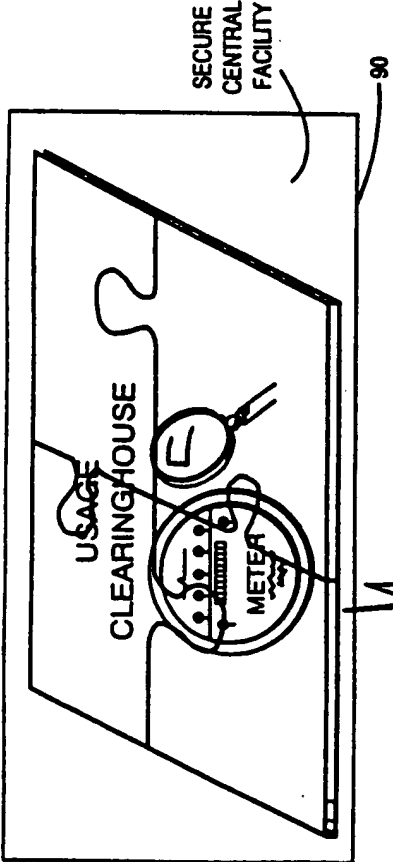
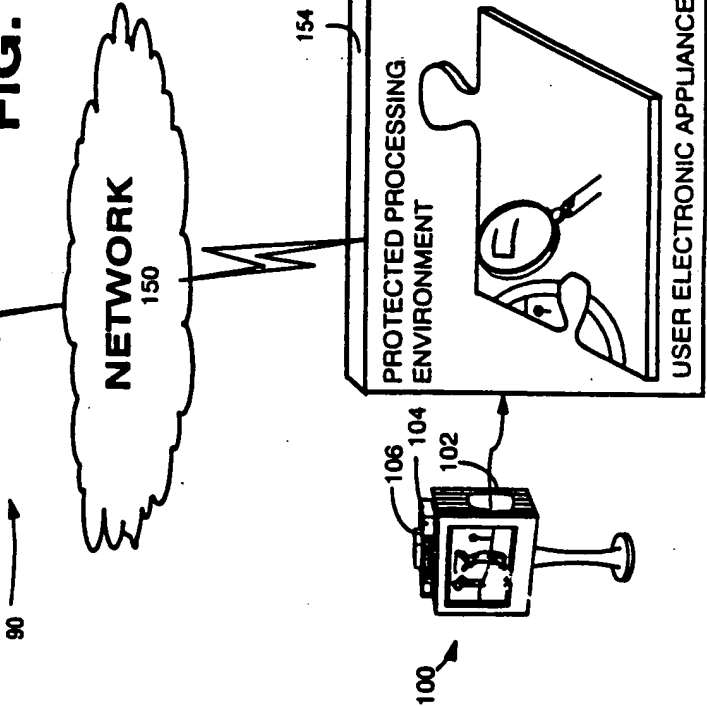
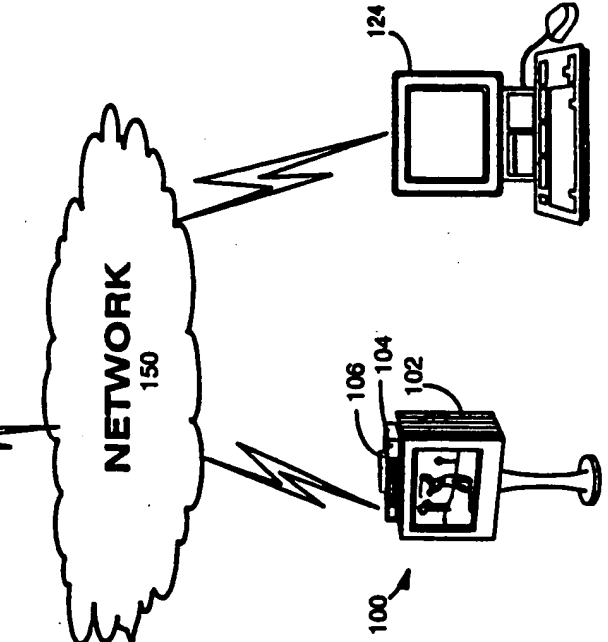


FIG. 2A



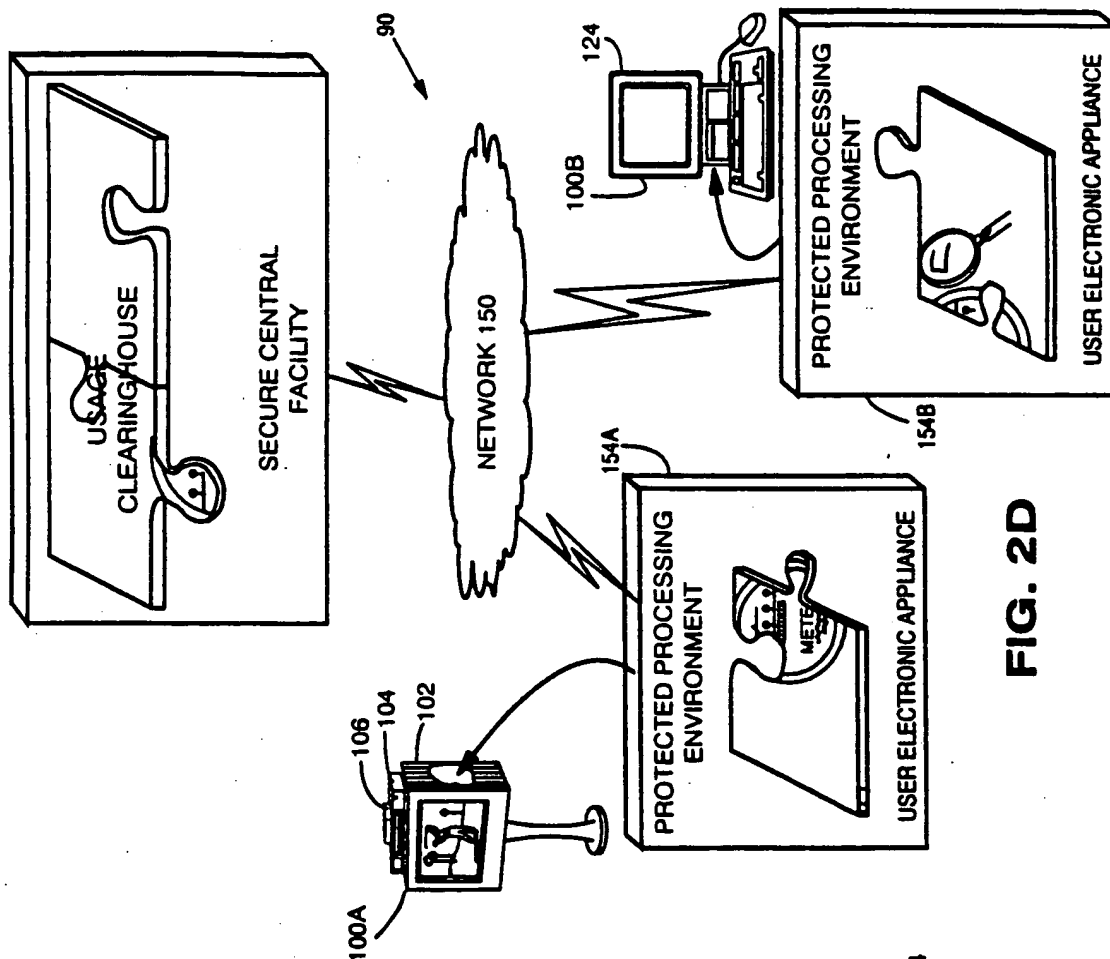


FIG. 2C

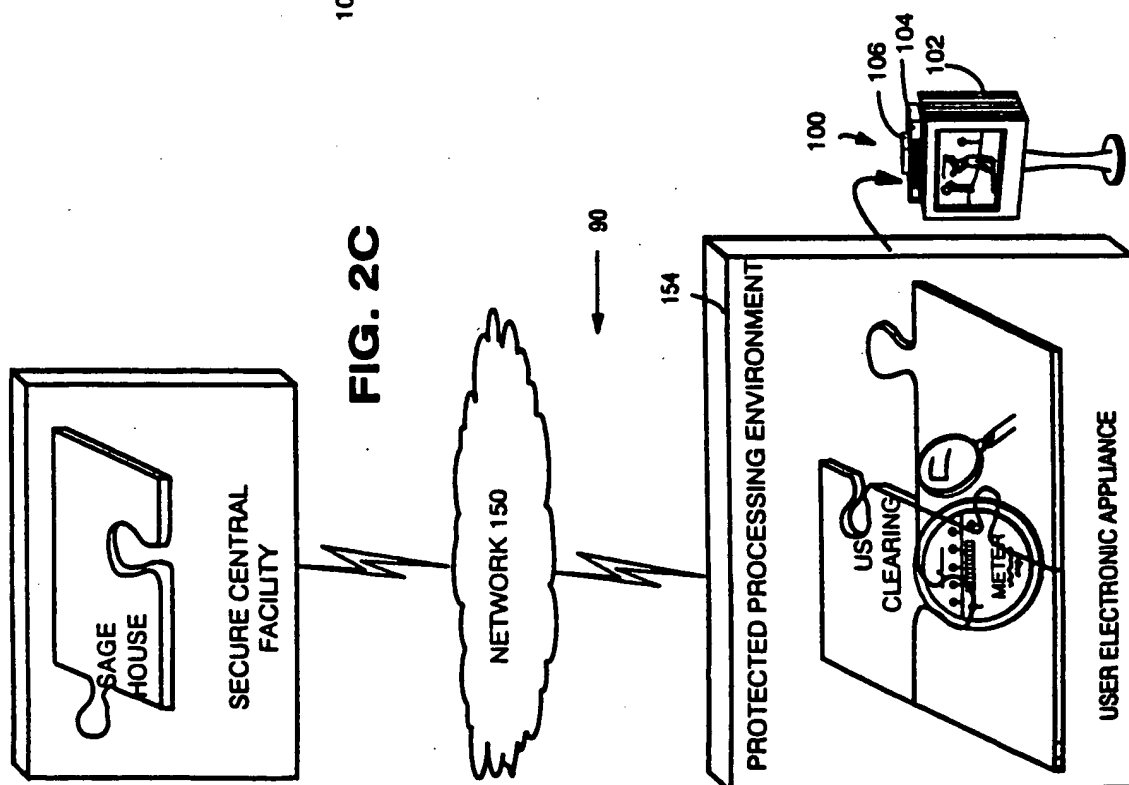


FIG. 2D

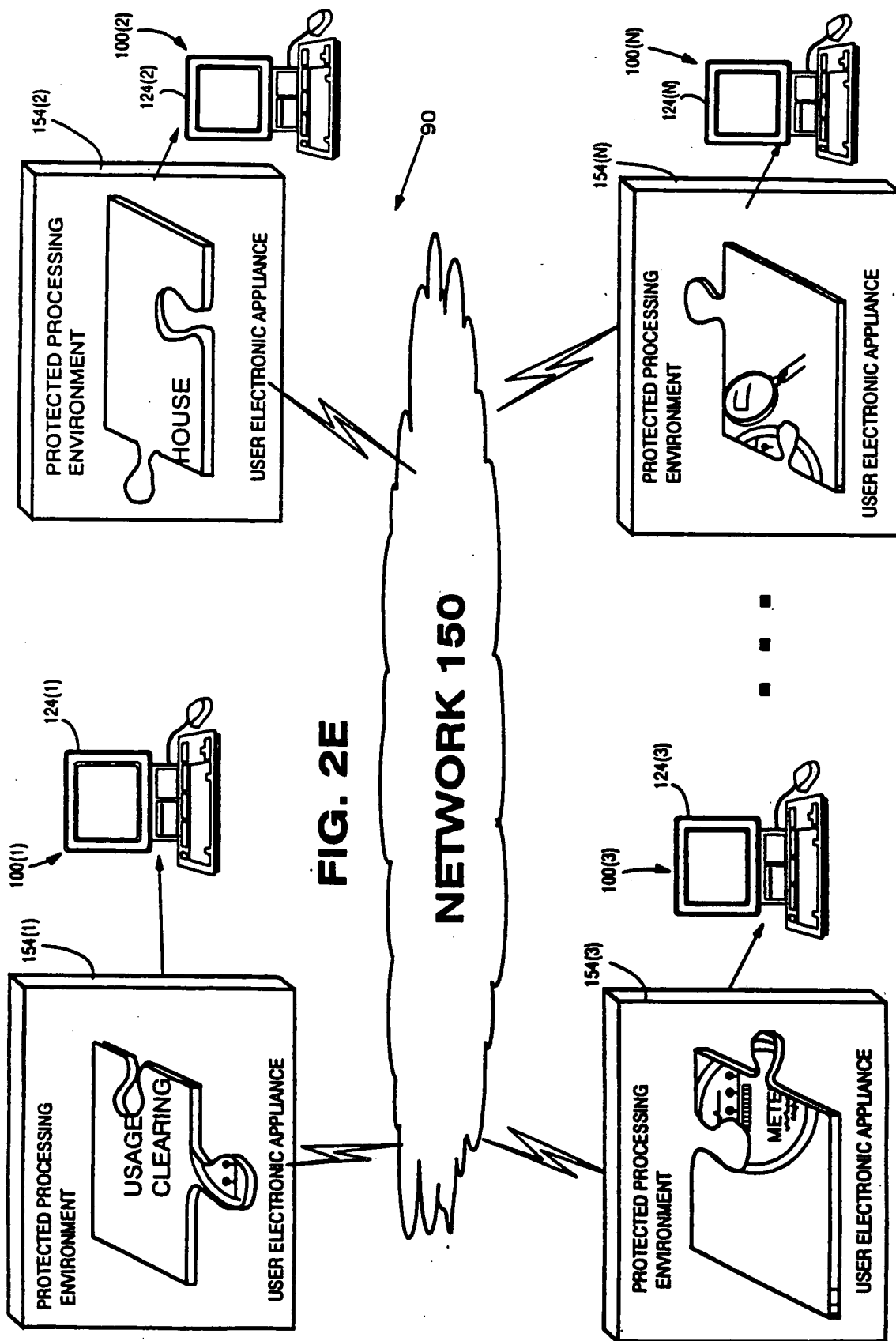
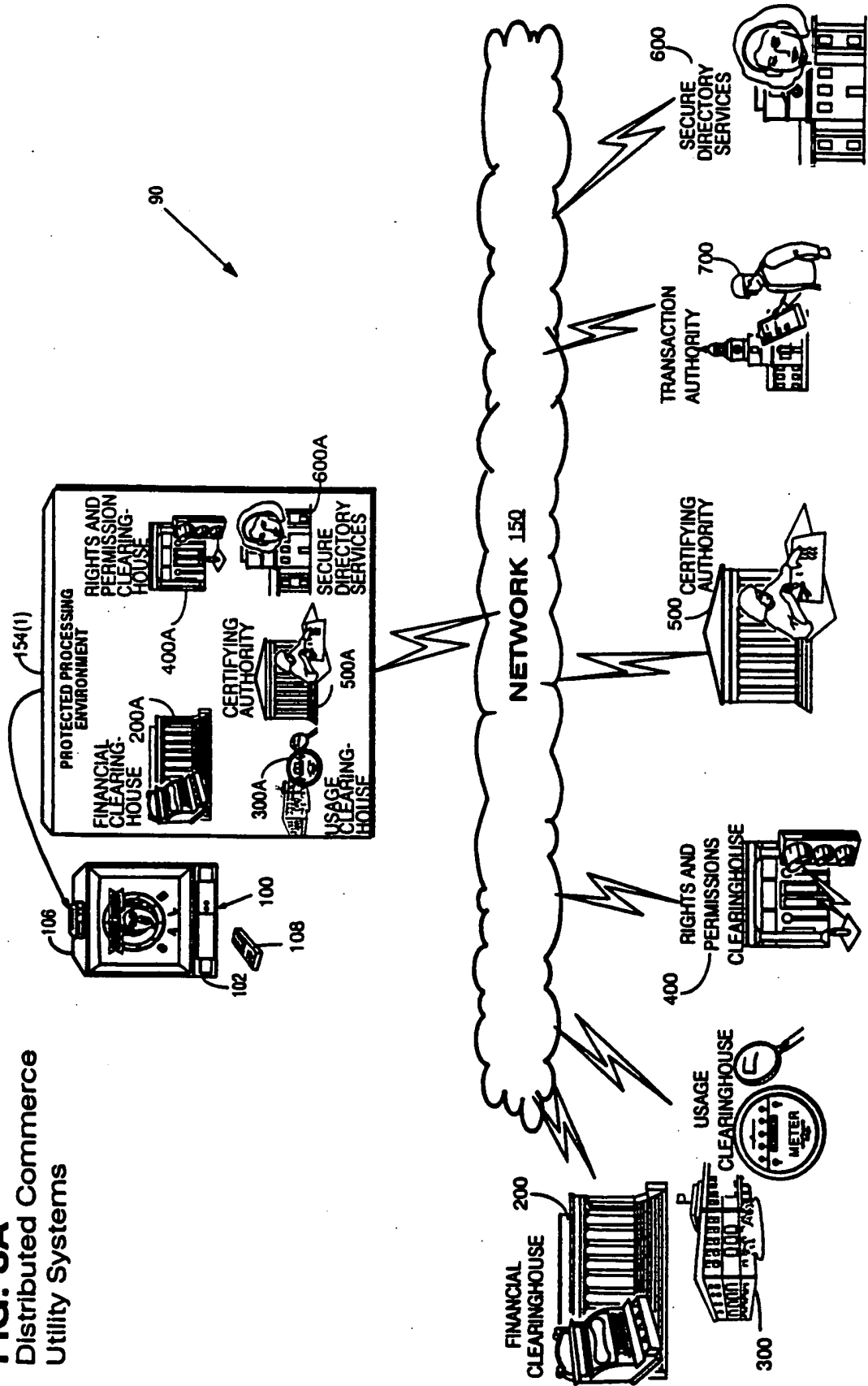
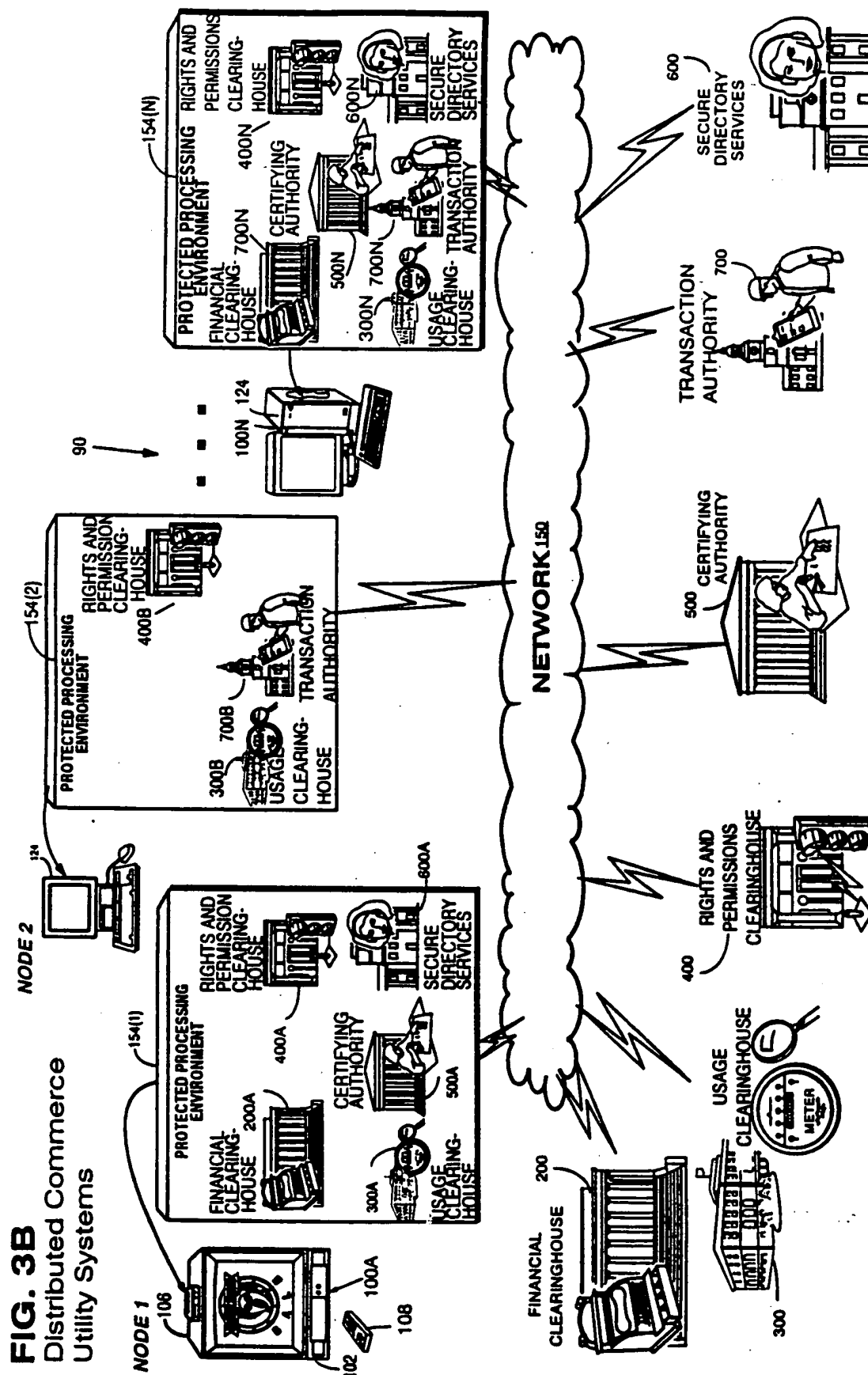
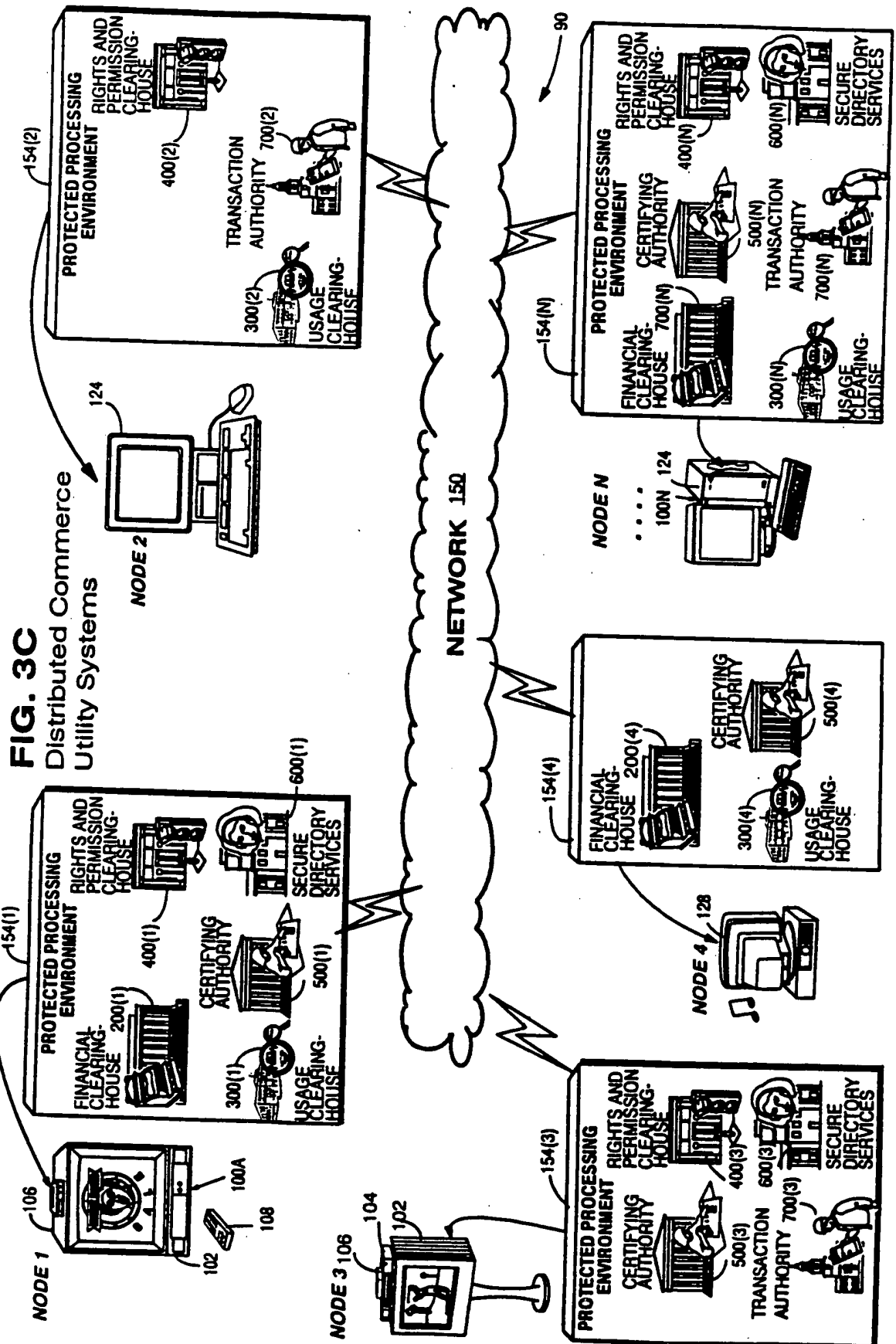
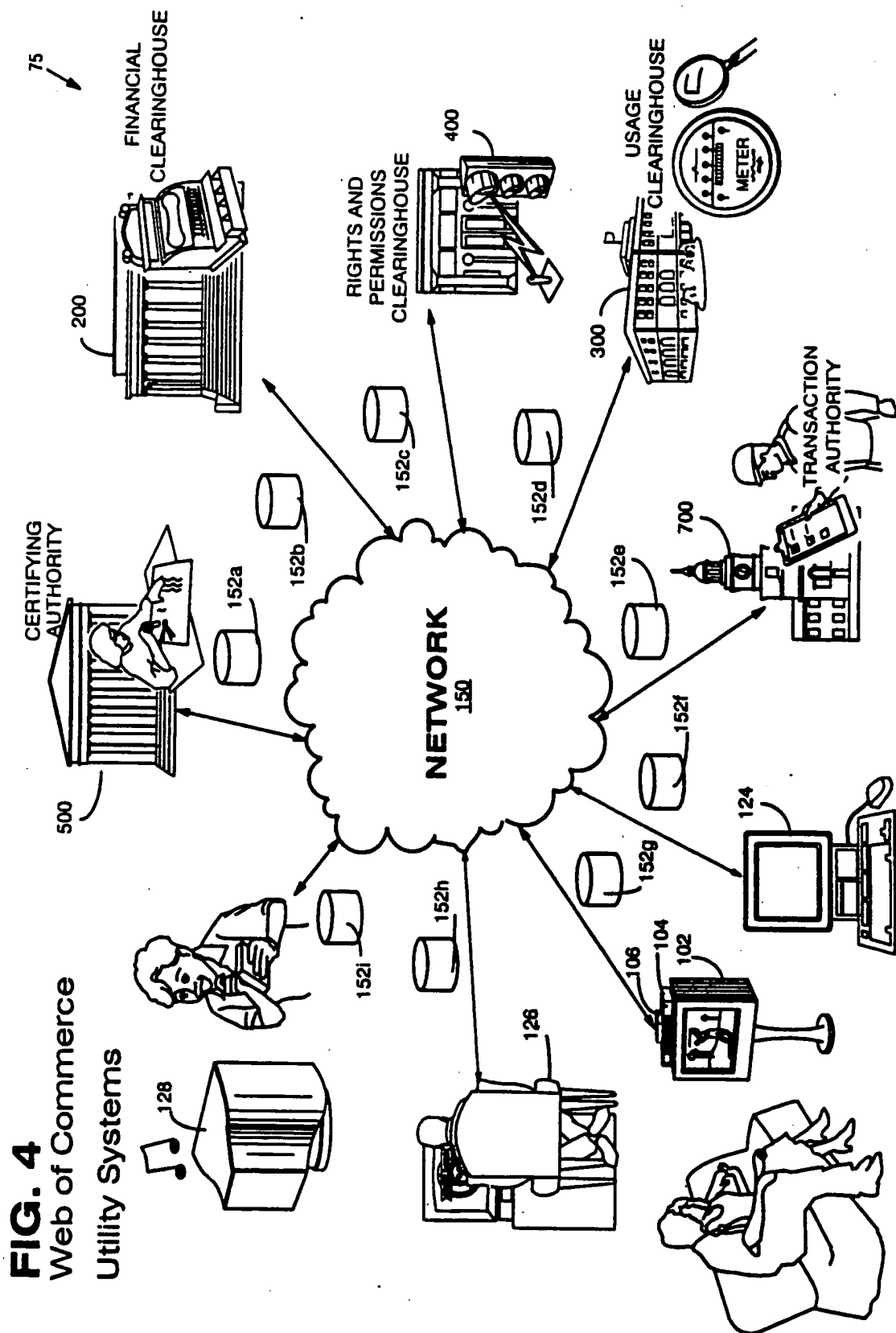


FIG. 3A
Distributed Commerce
Utility Systems









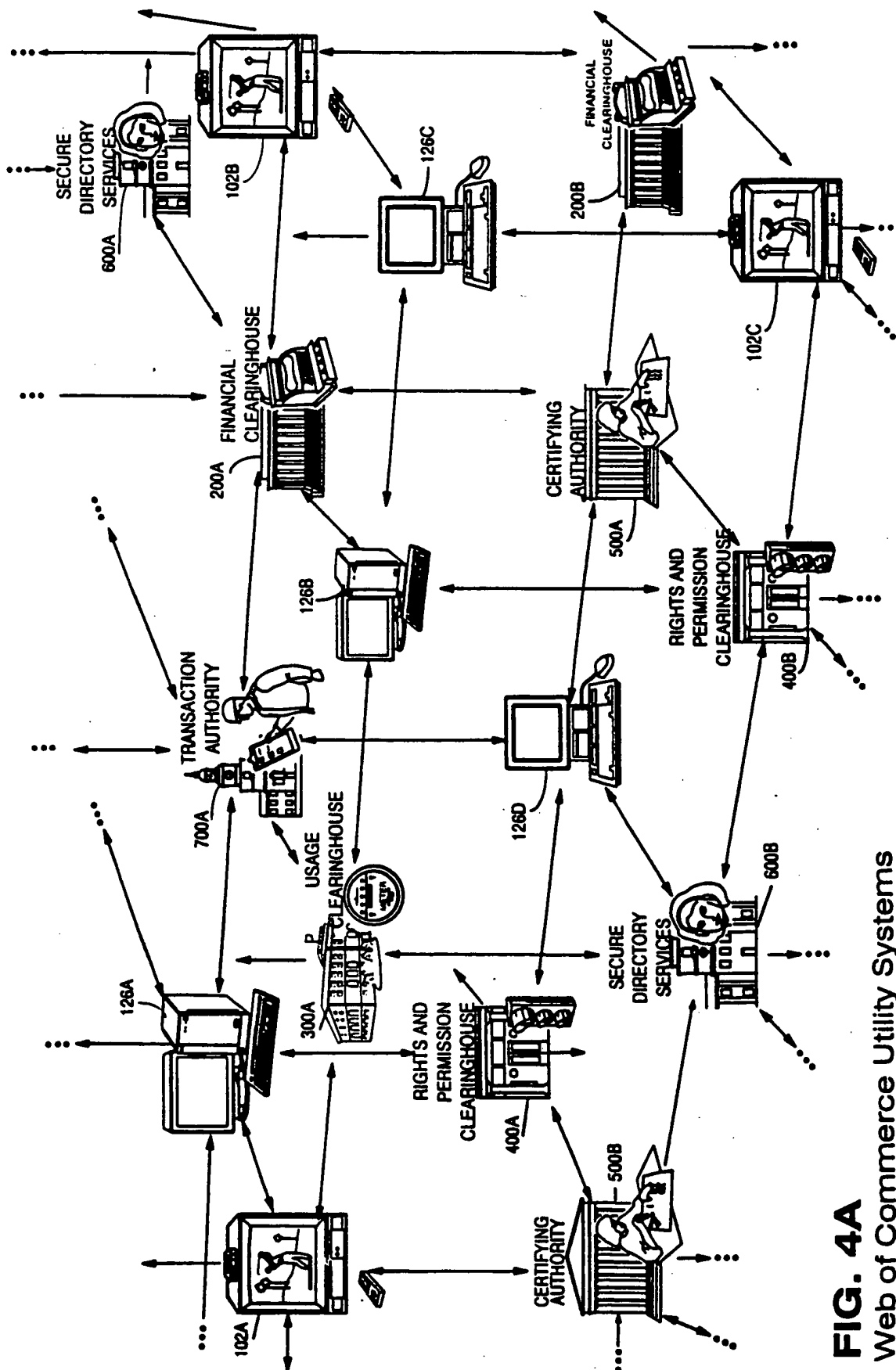


FIG. 4A
Web of Commerce Utility Systems

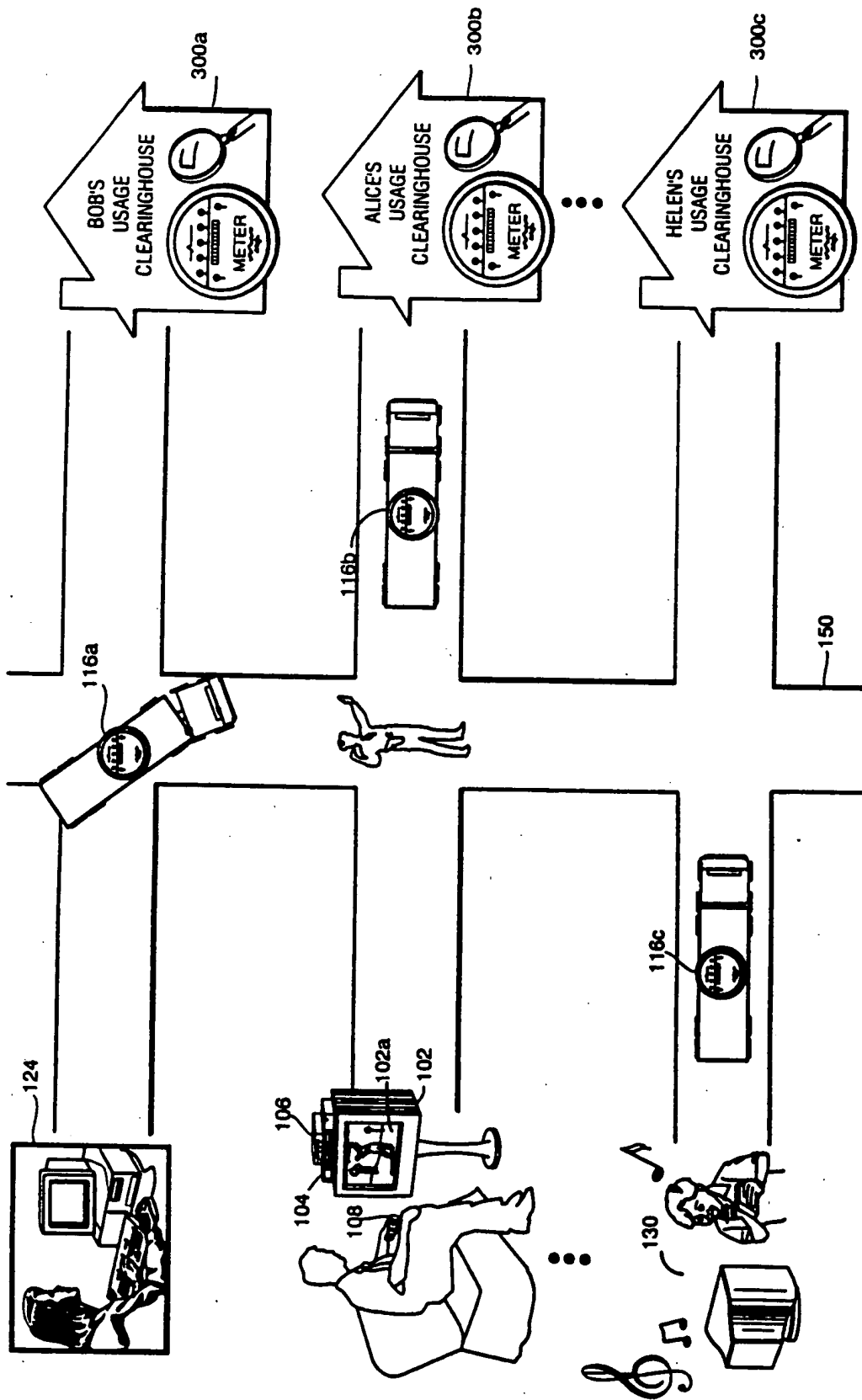
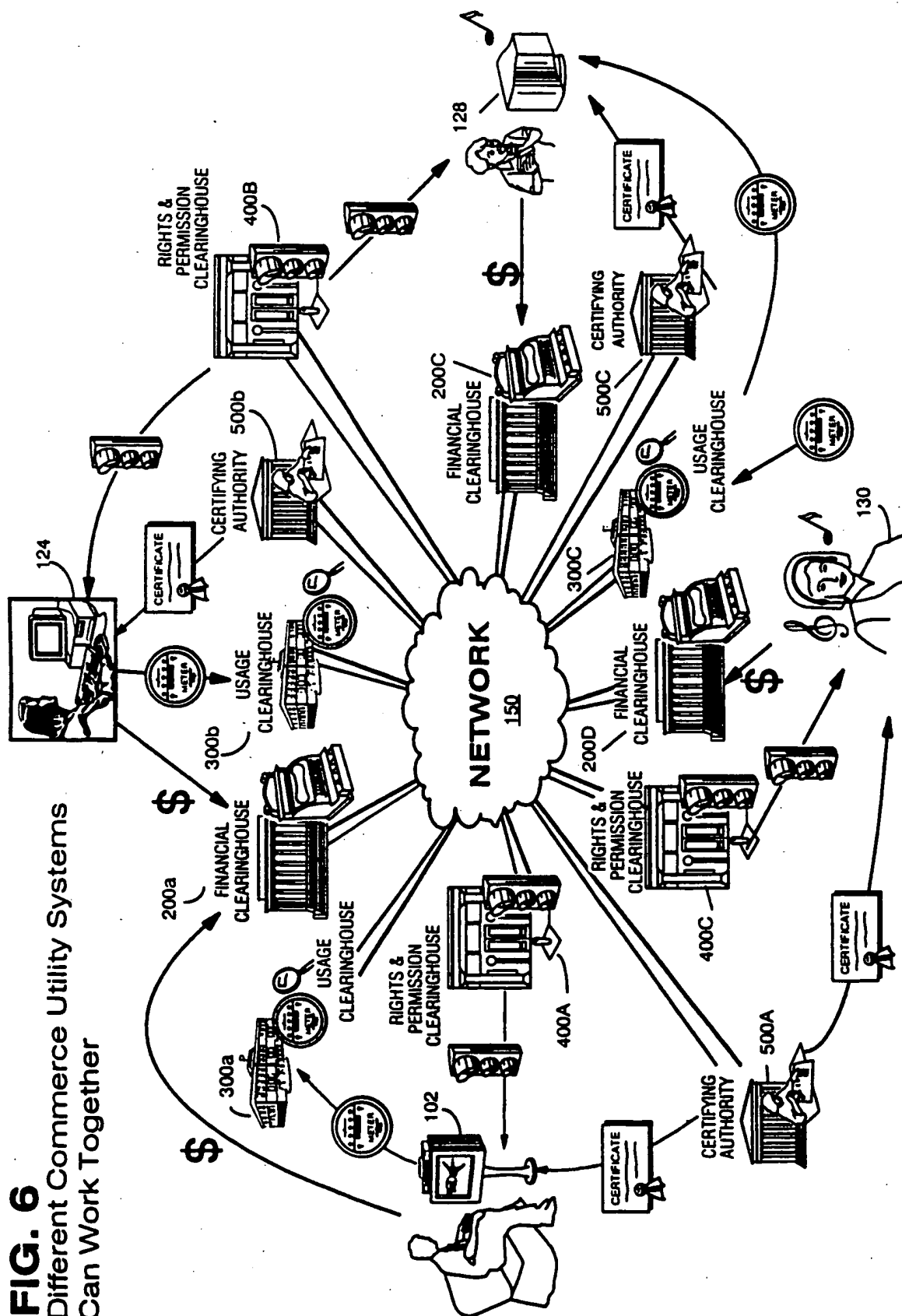


FIG. 5

Rights Holders Can Choose Between Commerce Utility Systems



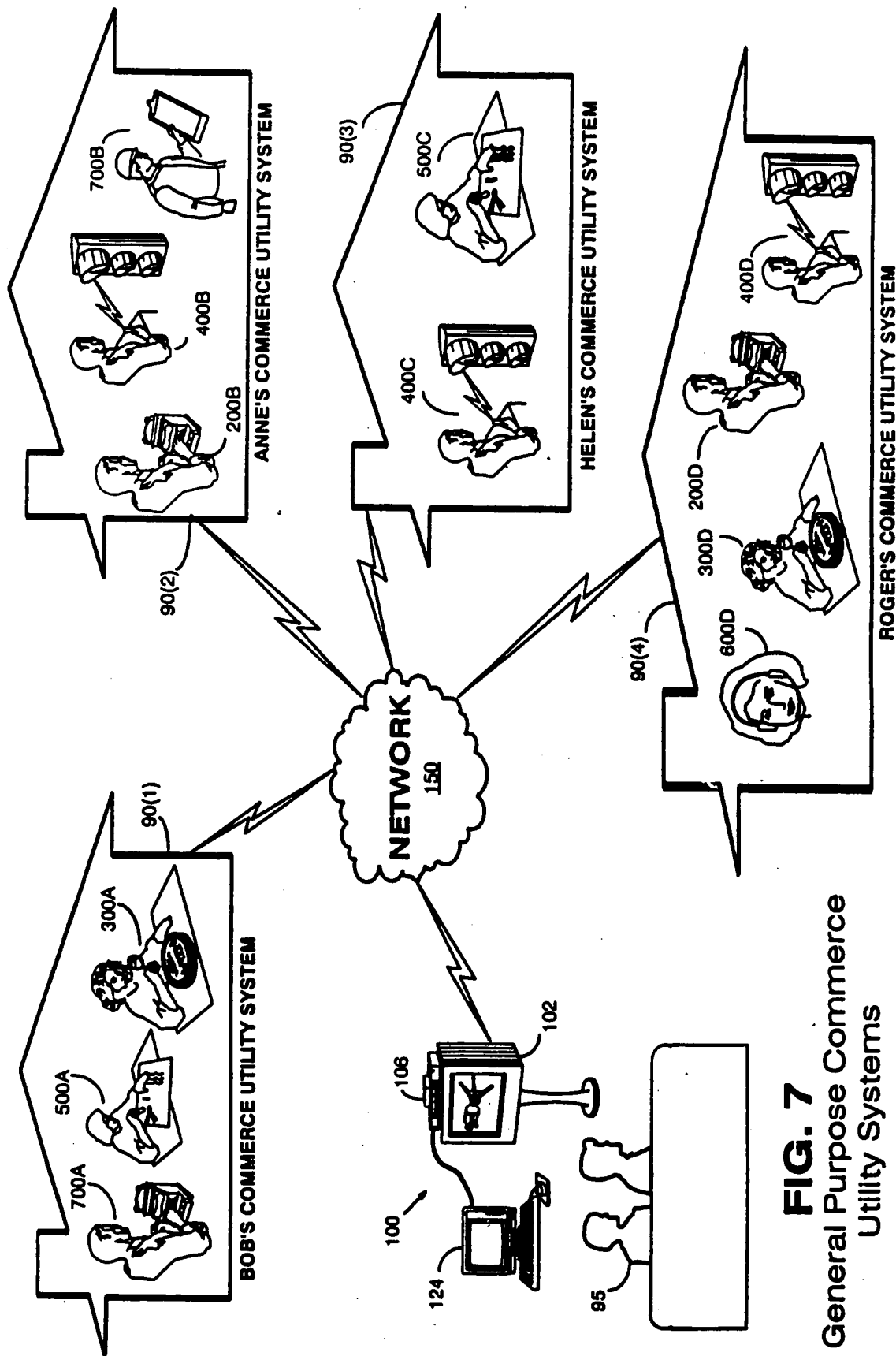


FIG. 7
General Purpose Commerce
Utility Systems

FIG. 7A
A Web Of General or
Multi-purpose Commerce
Utility Systems

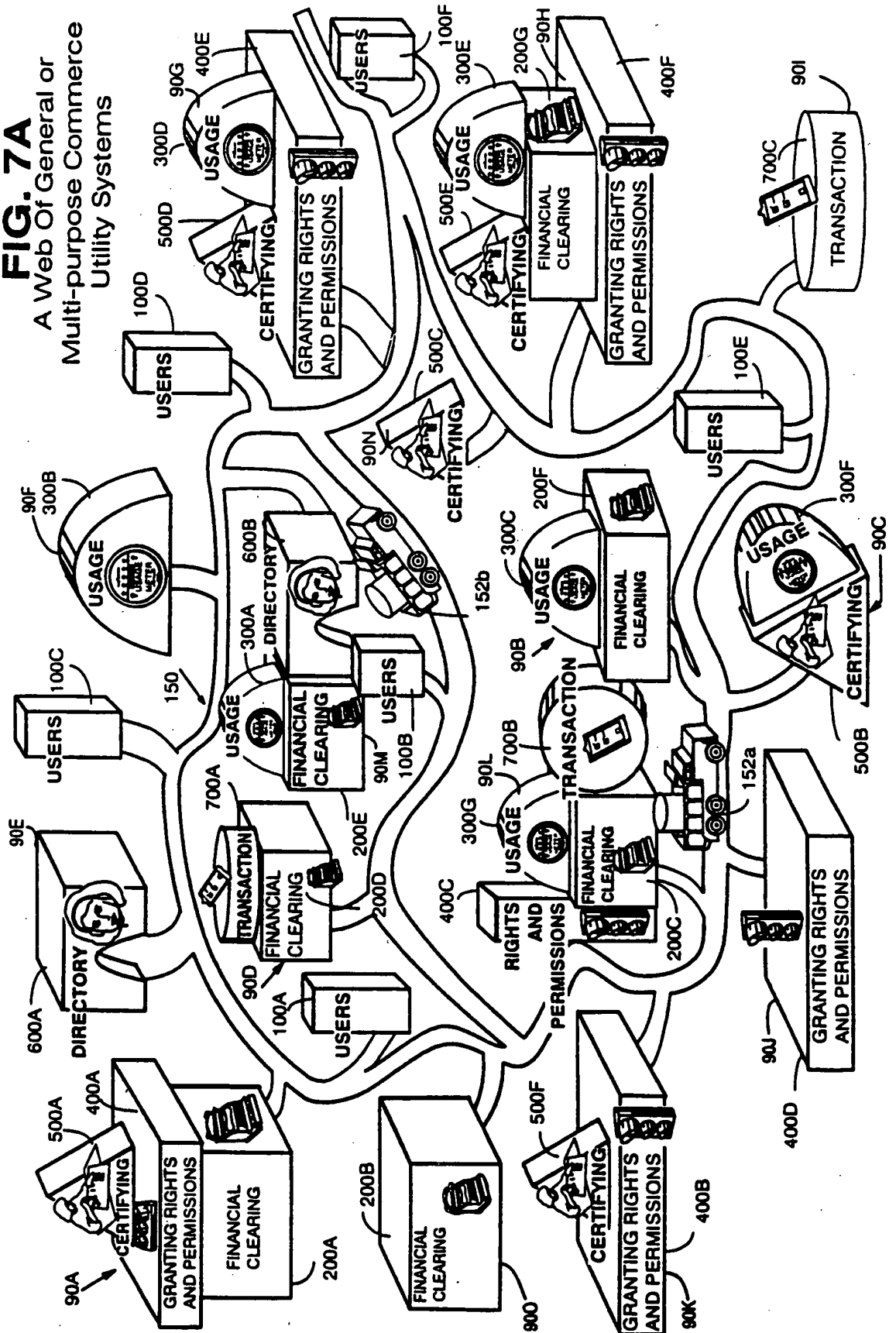


FIG. 8A

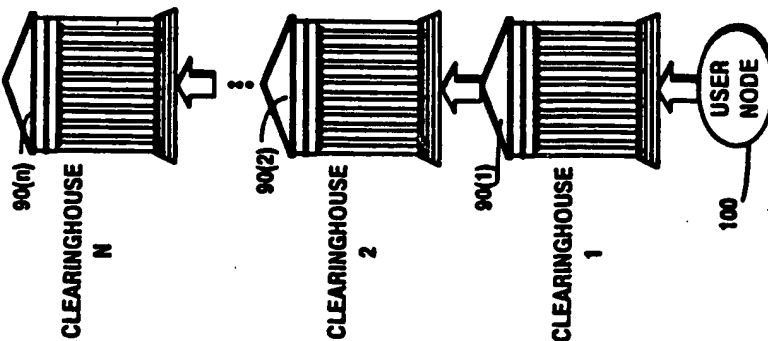
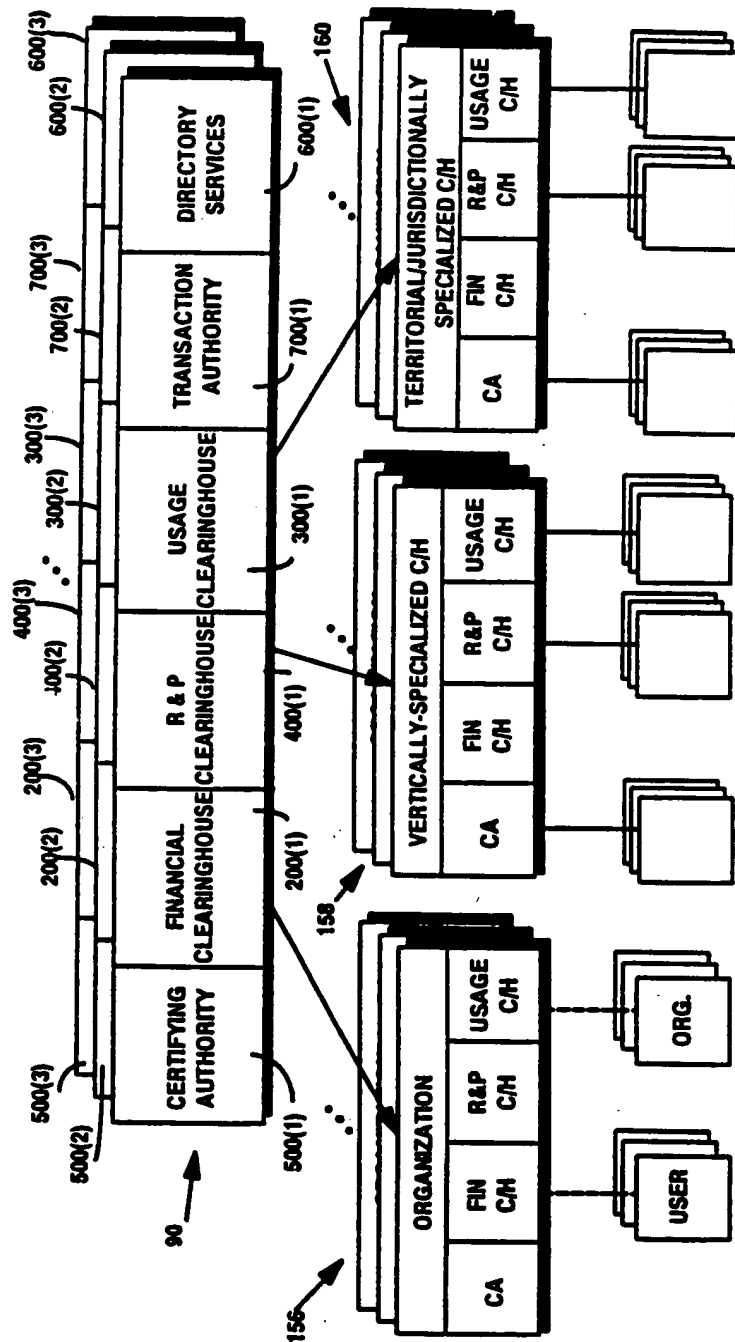


FIG. 8B
Hierarchy Of Commerce
Utility Systems



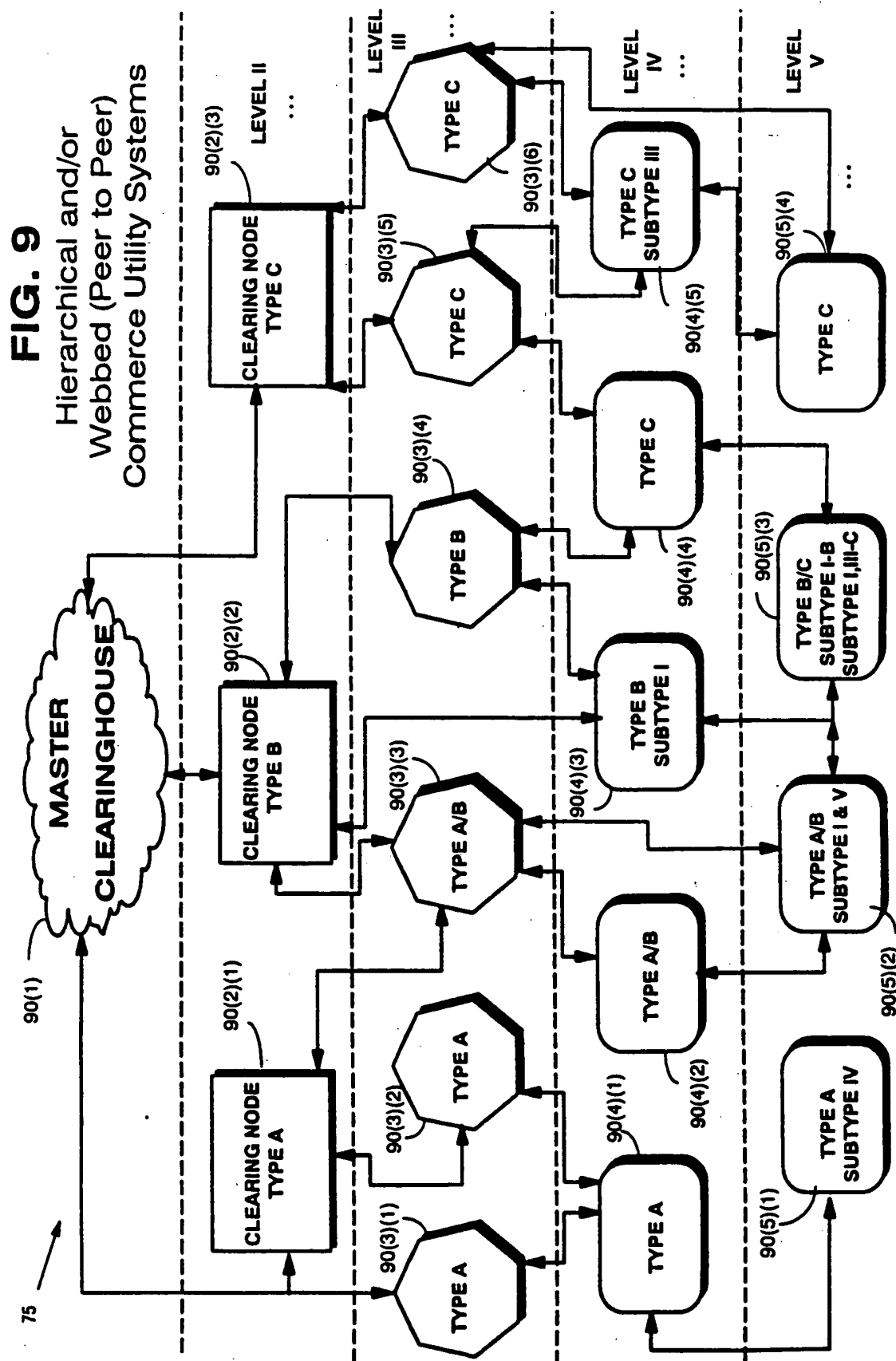


FIG. 10 Financial Clearinghouse

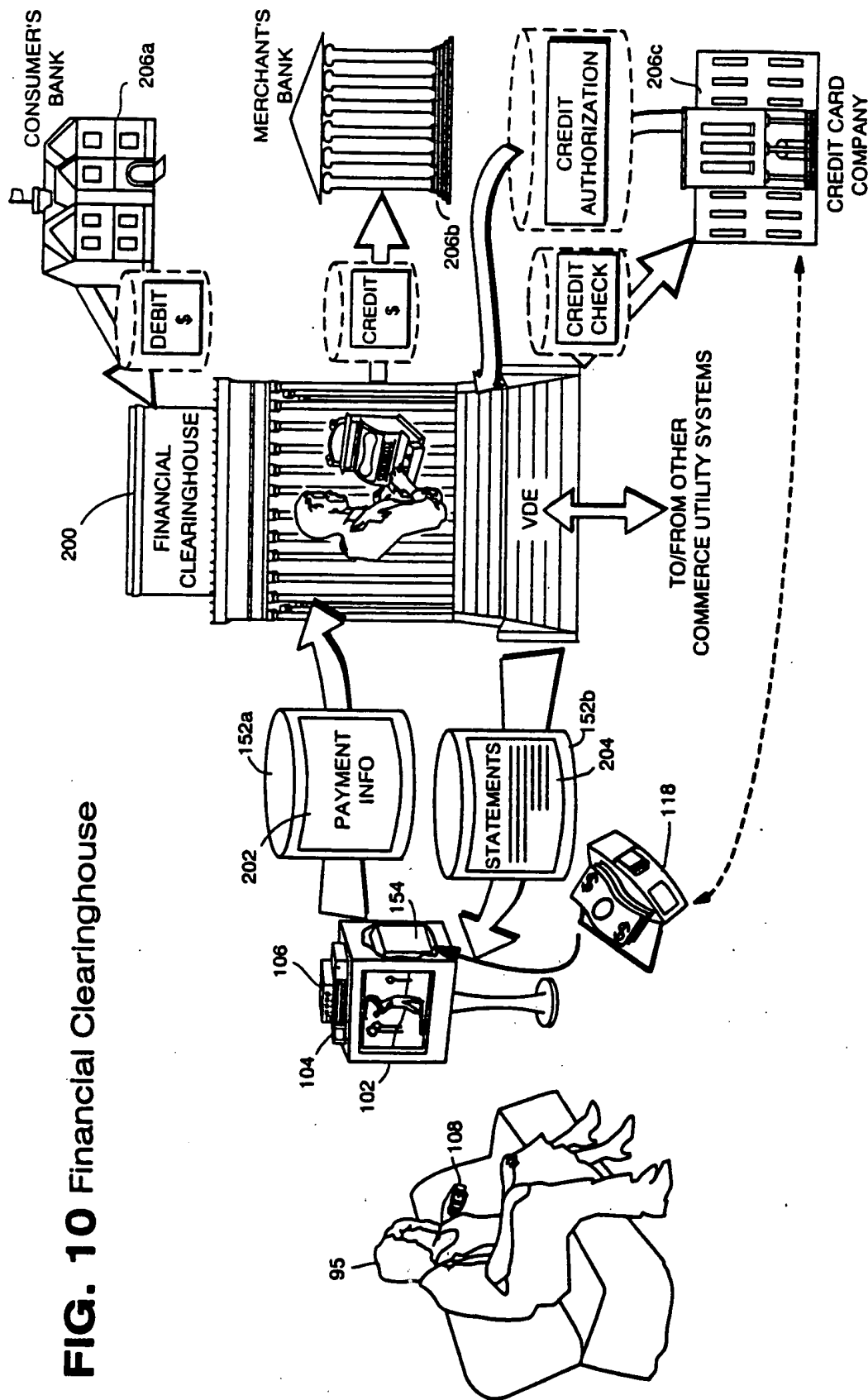


FIG. 11 Usage Clearinghouse

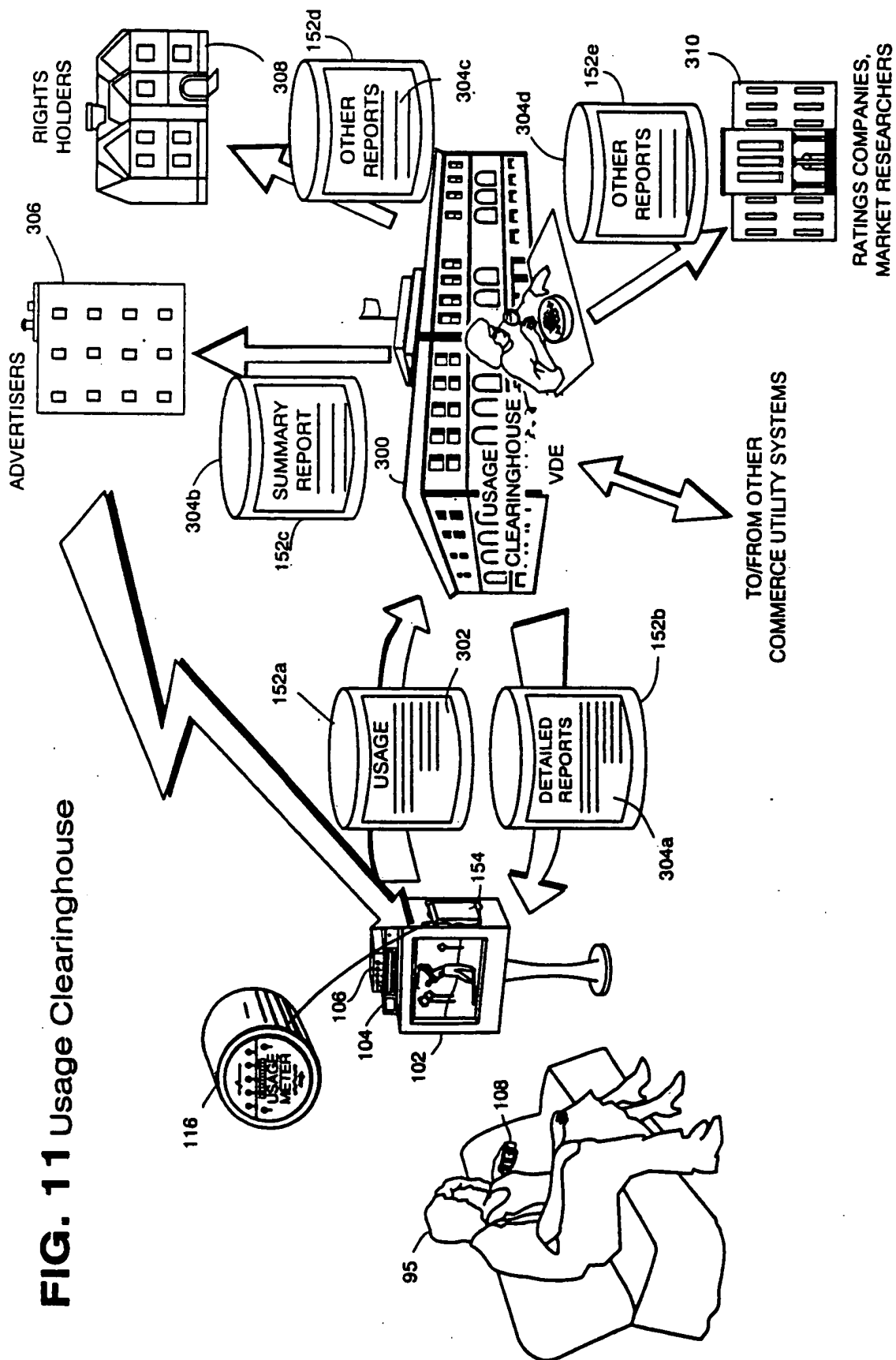


FIG. 12 Rights and Permissions Clearinghouse

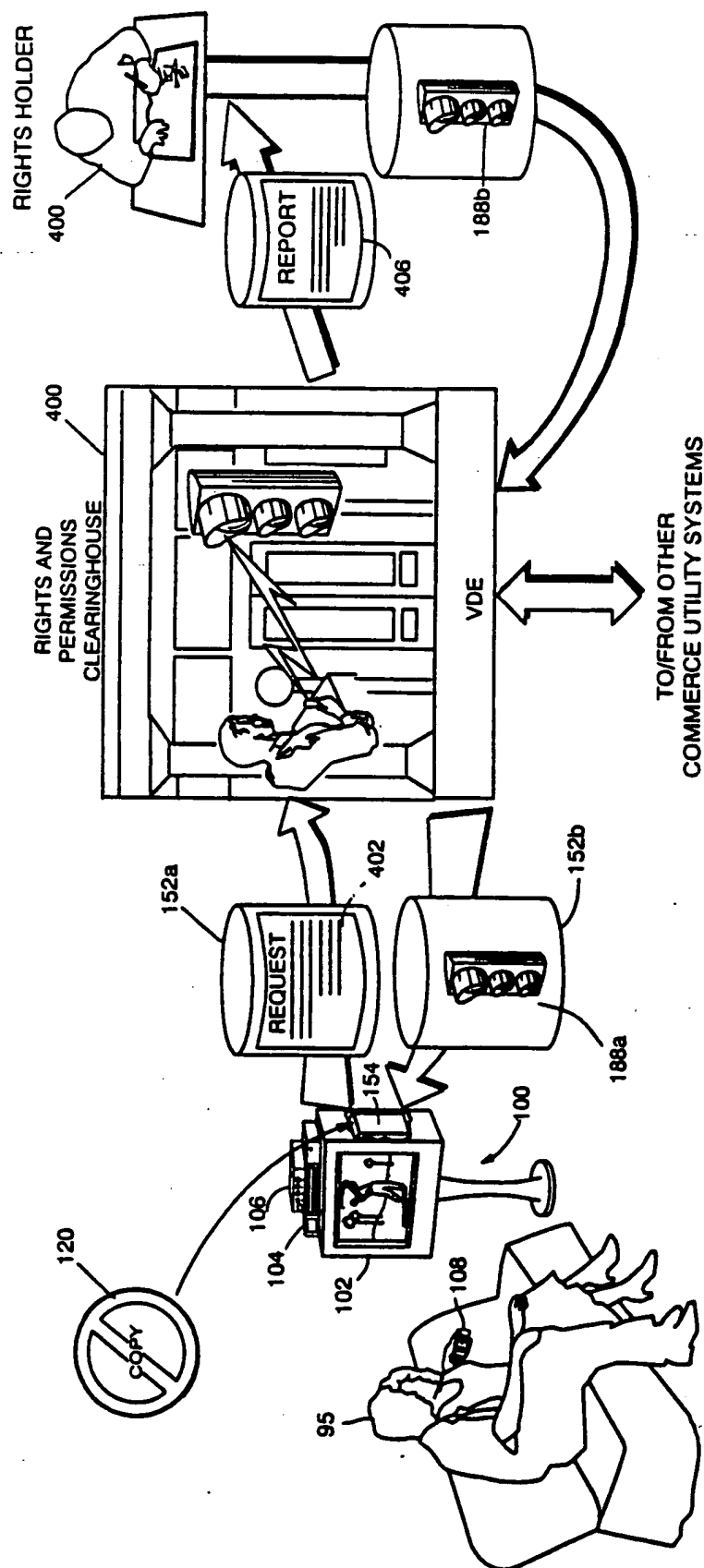


FIG. 13 Certifying Authority

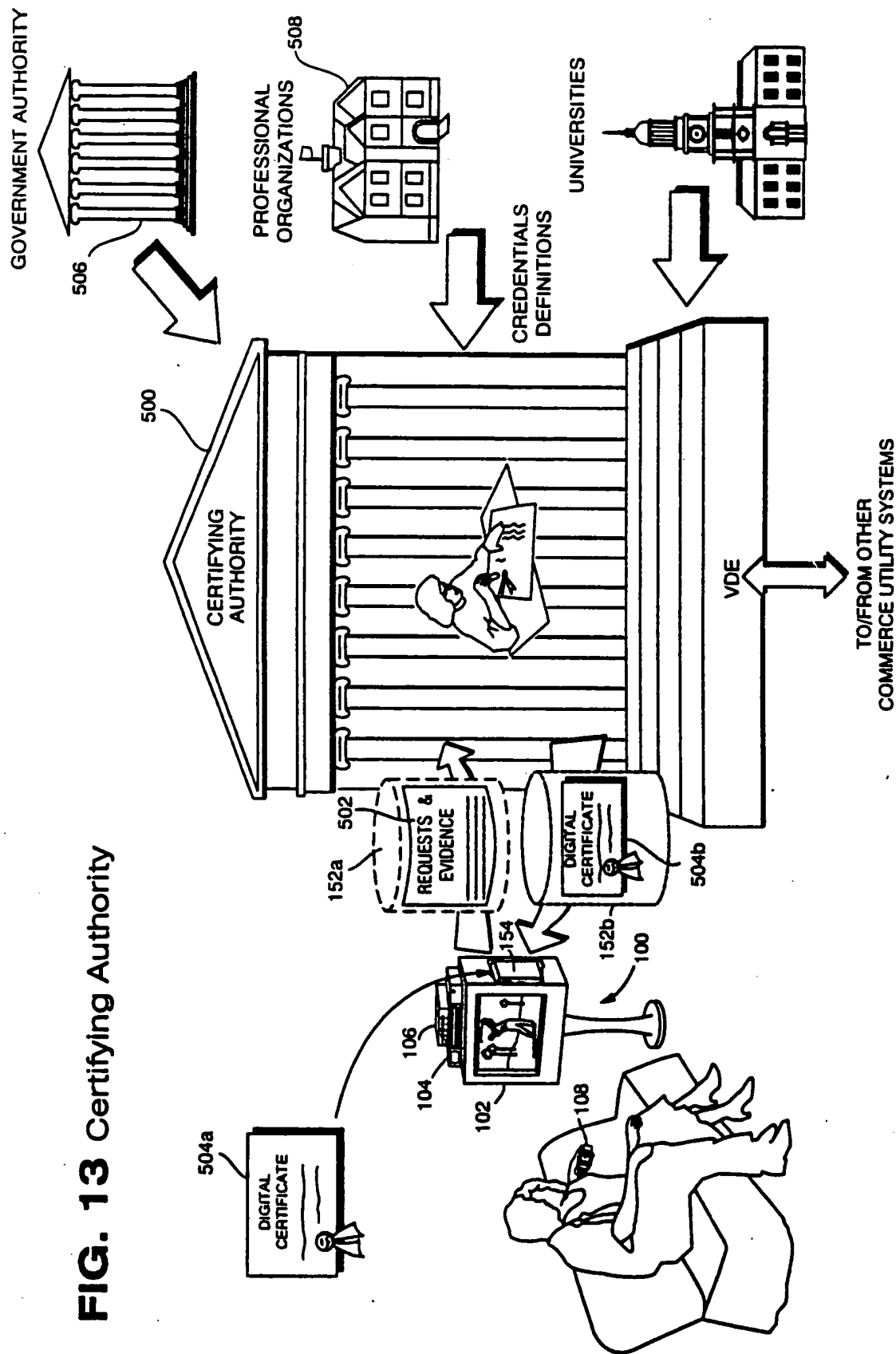


FIG. 14 Secure Directory Services

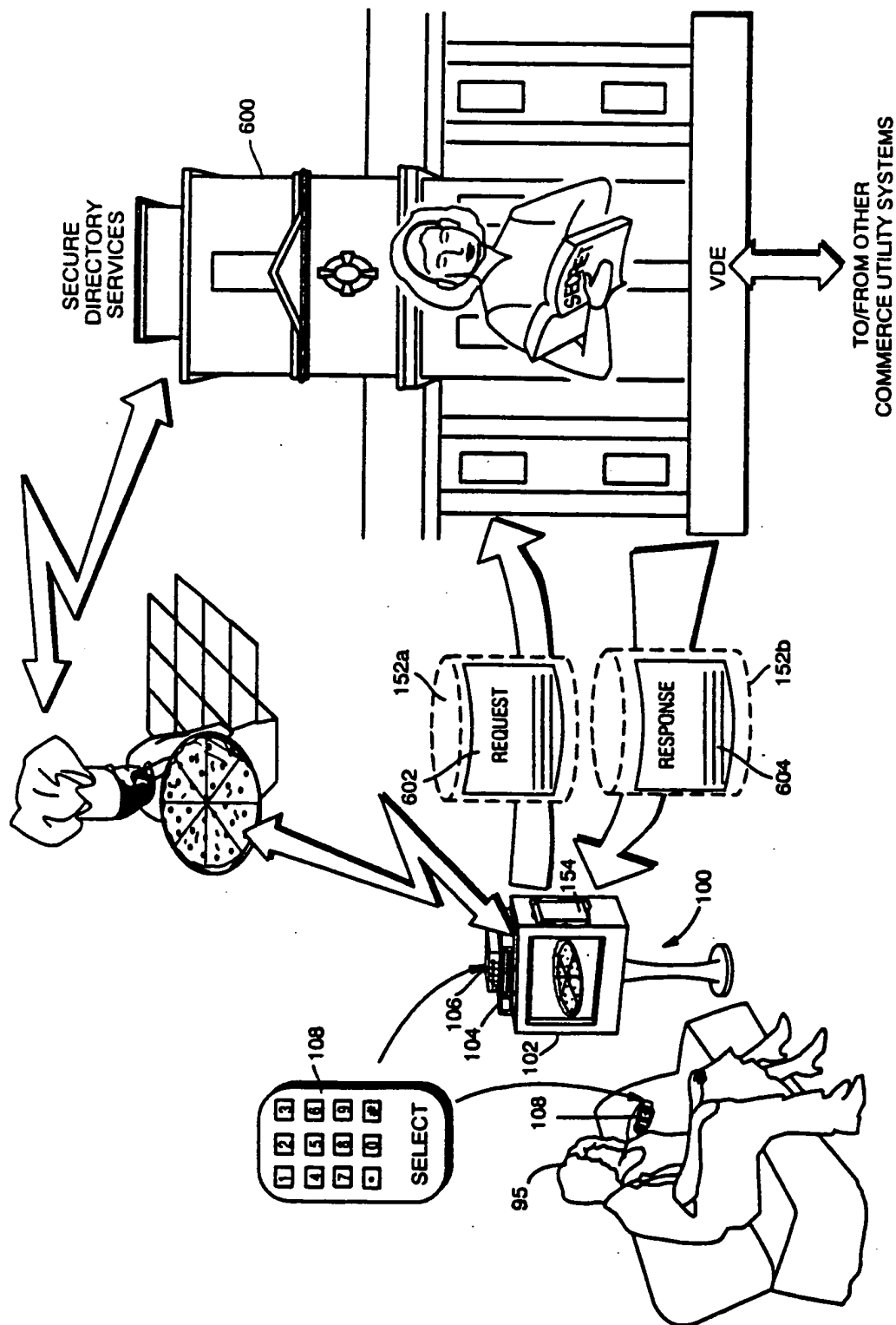


FIG. 15
Transaction Authority

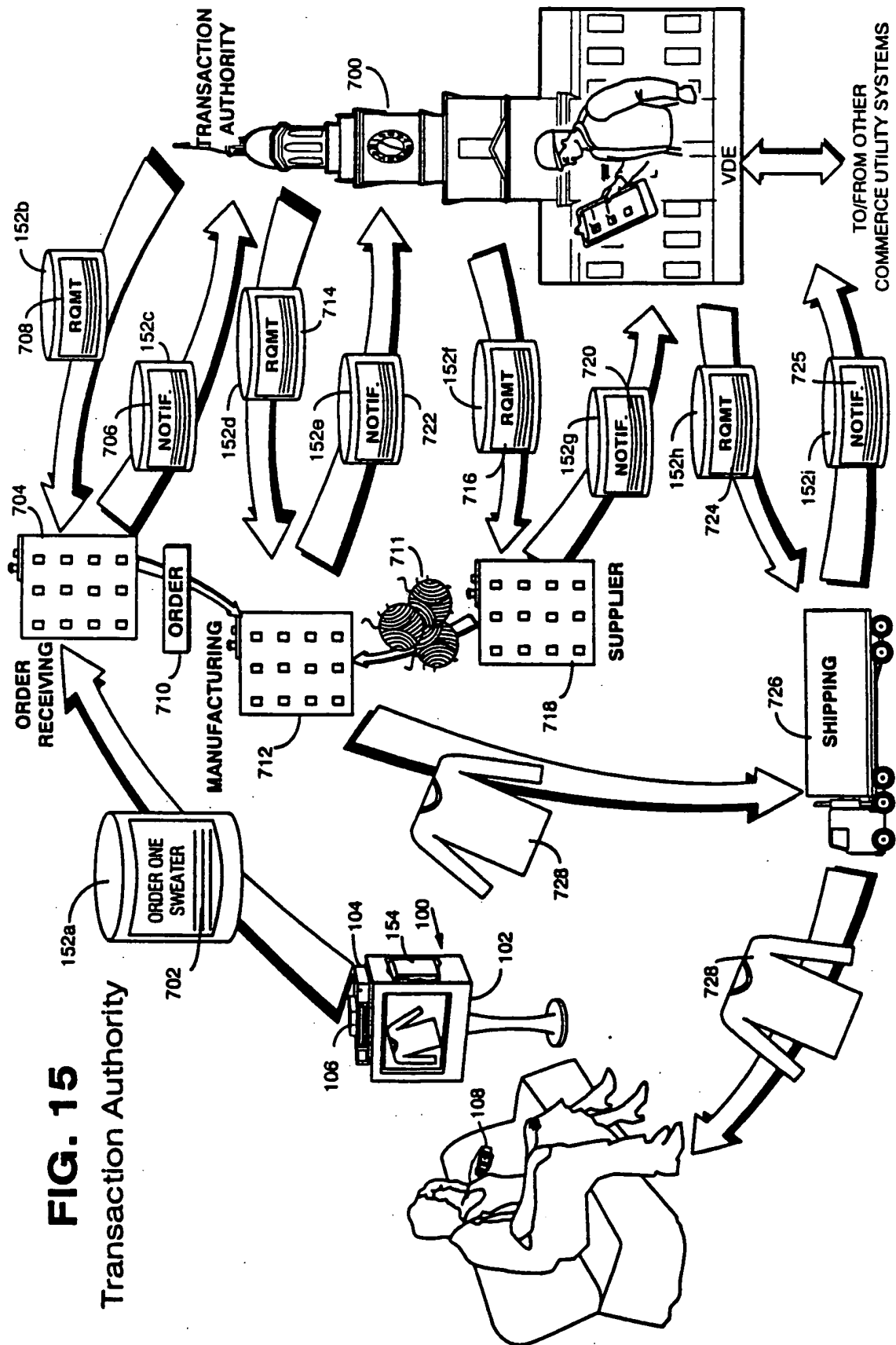


FIG. 16A

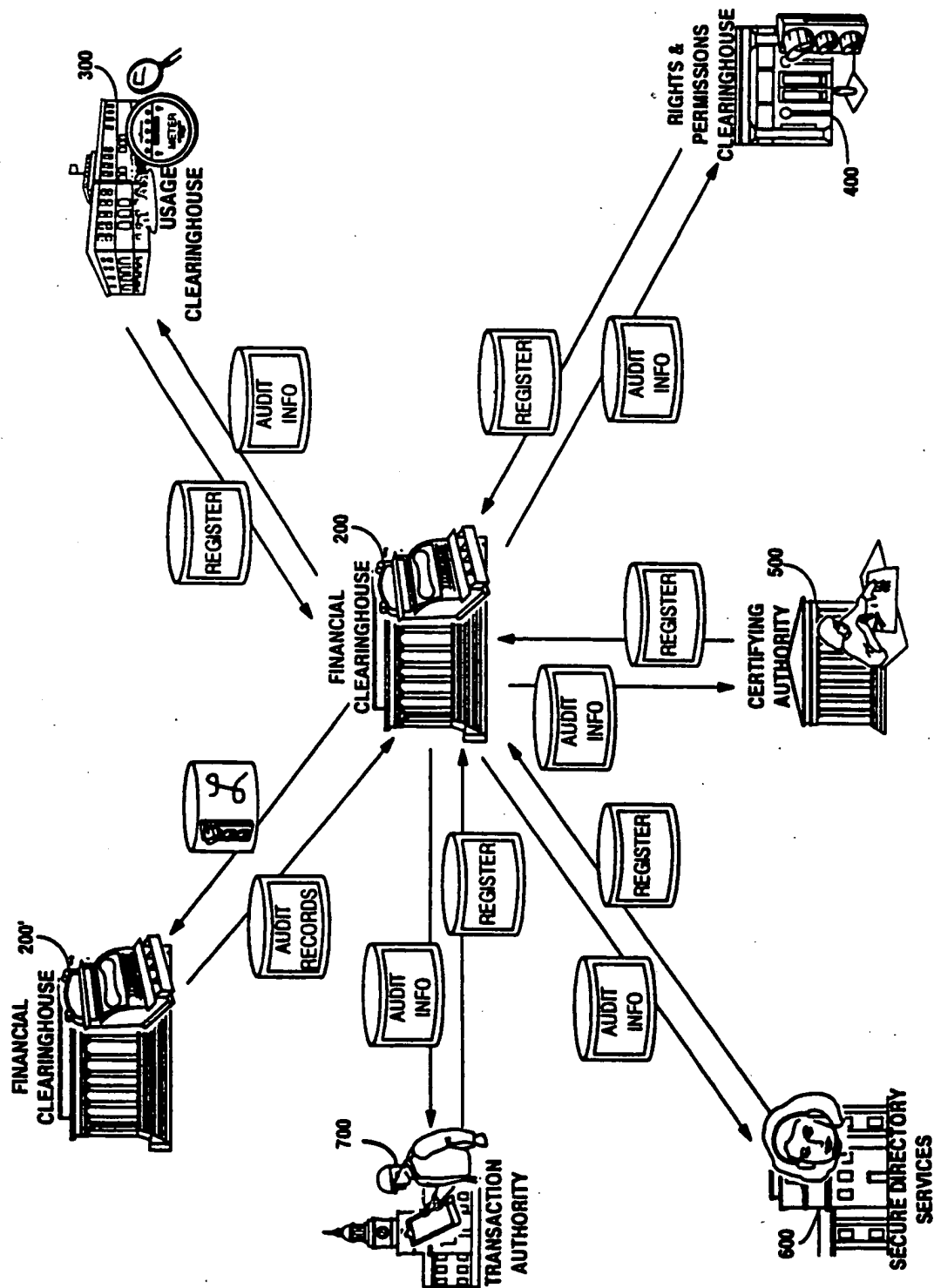


FIG. 16B

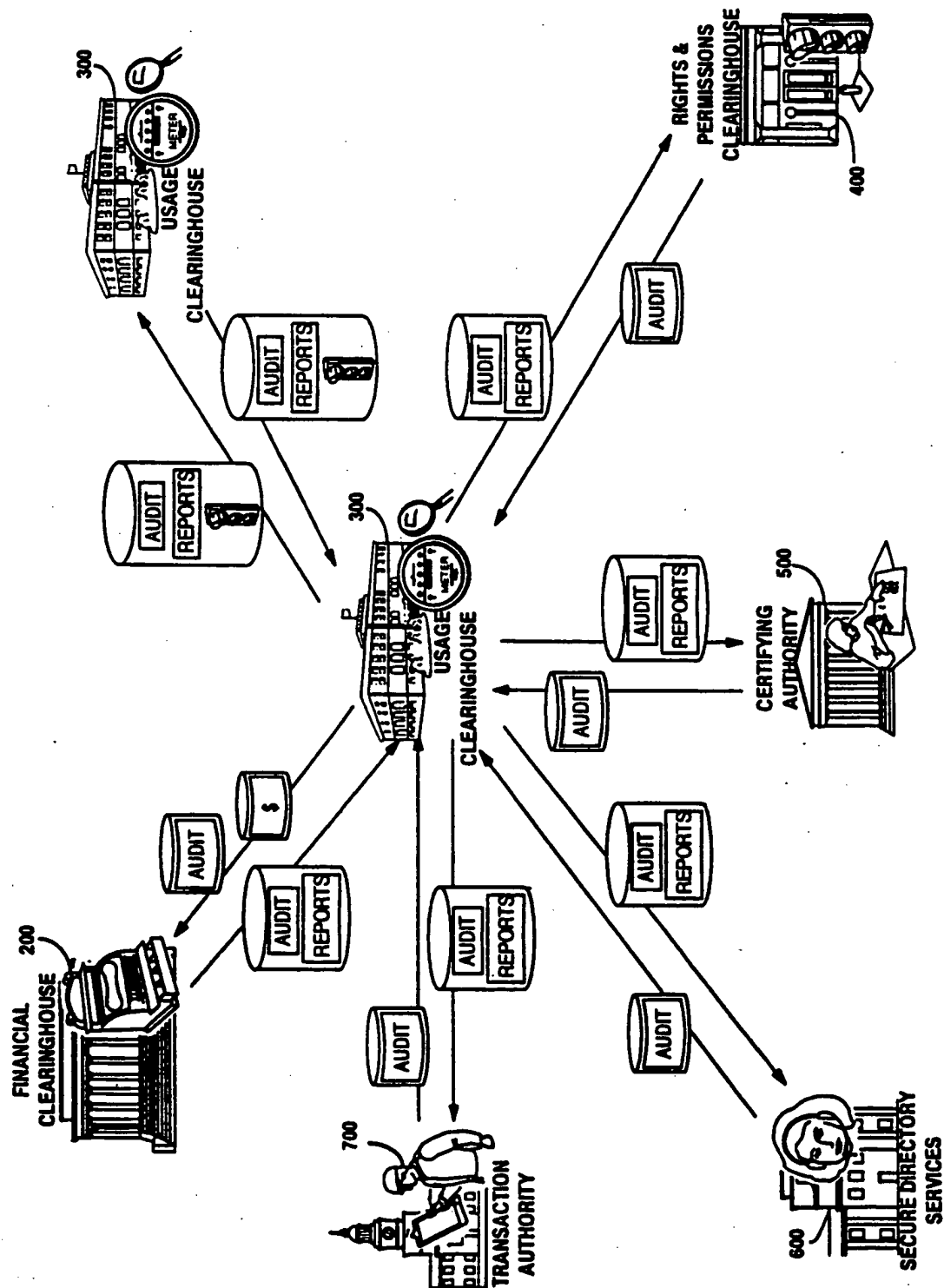


FIG. 16C

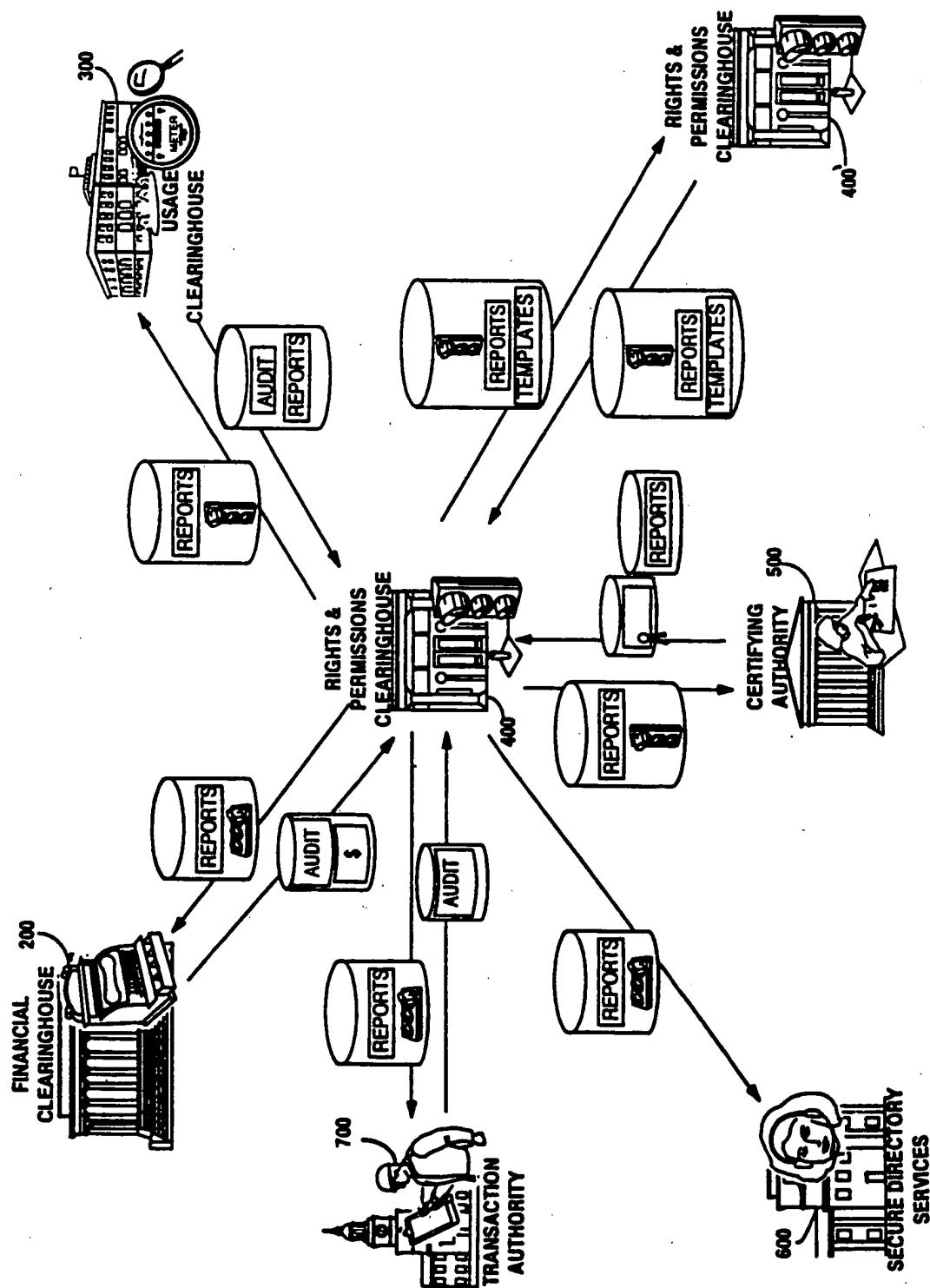


FIG. 16D

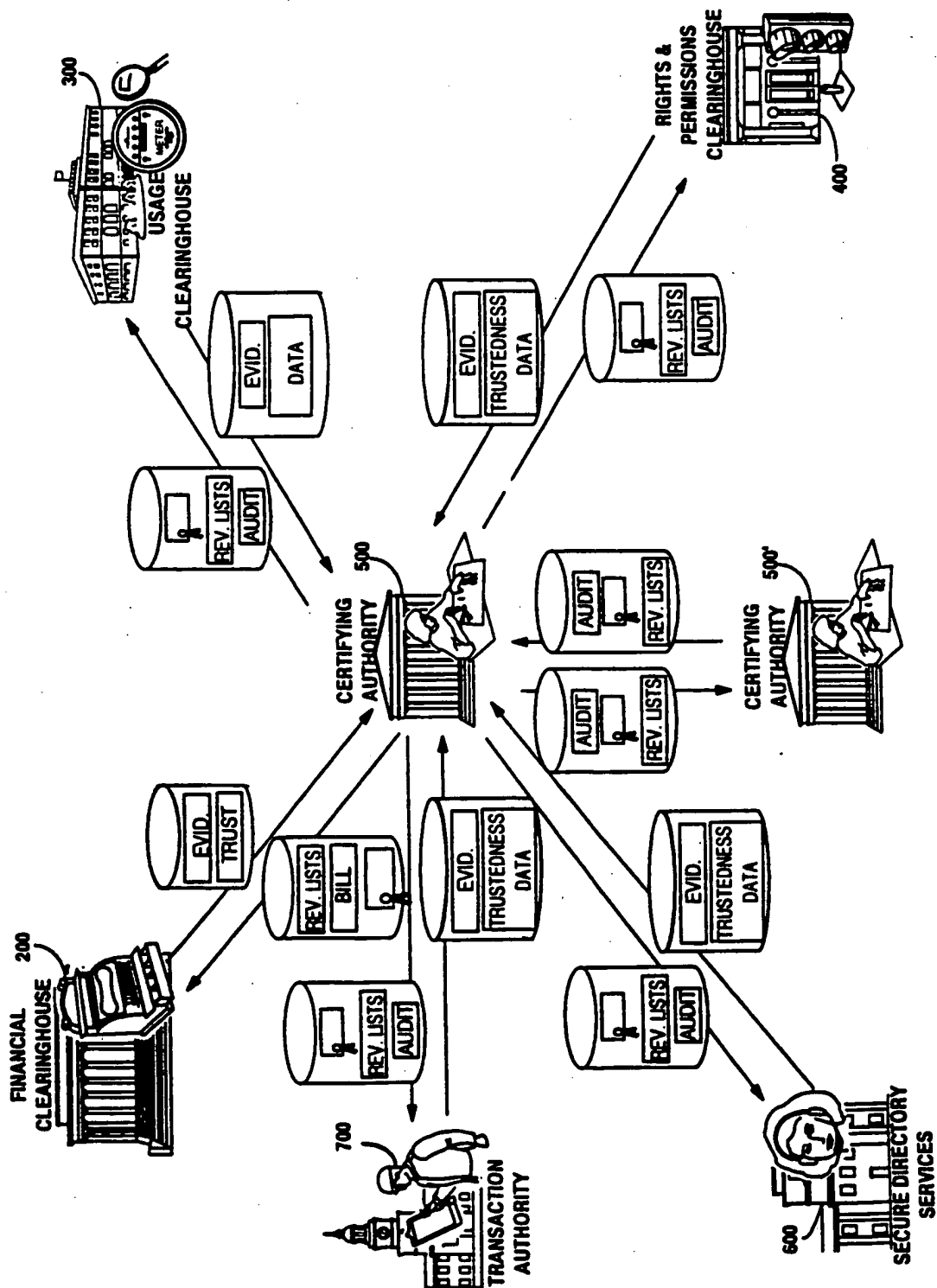


FIG. 16E

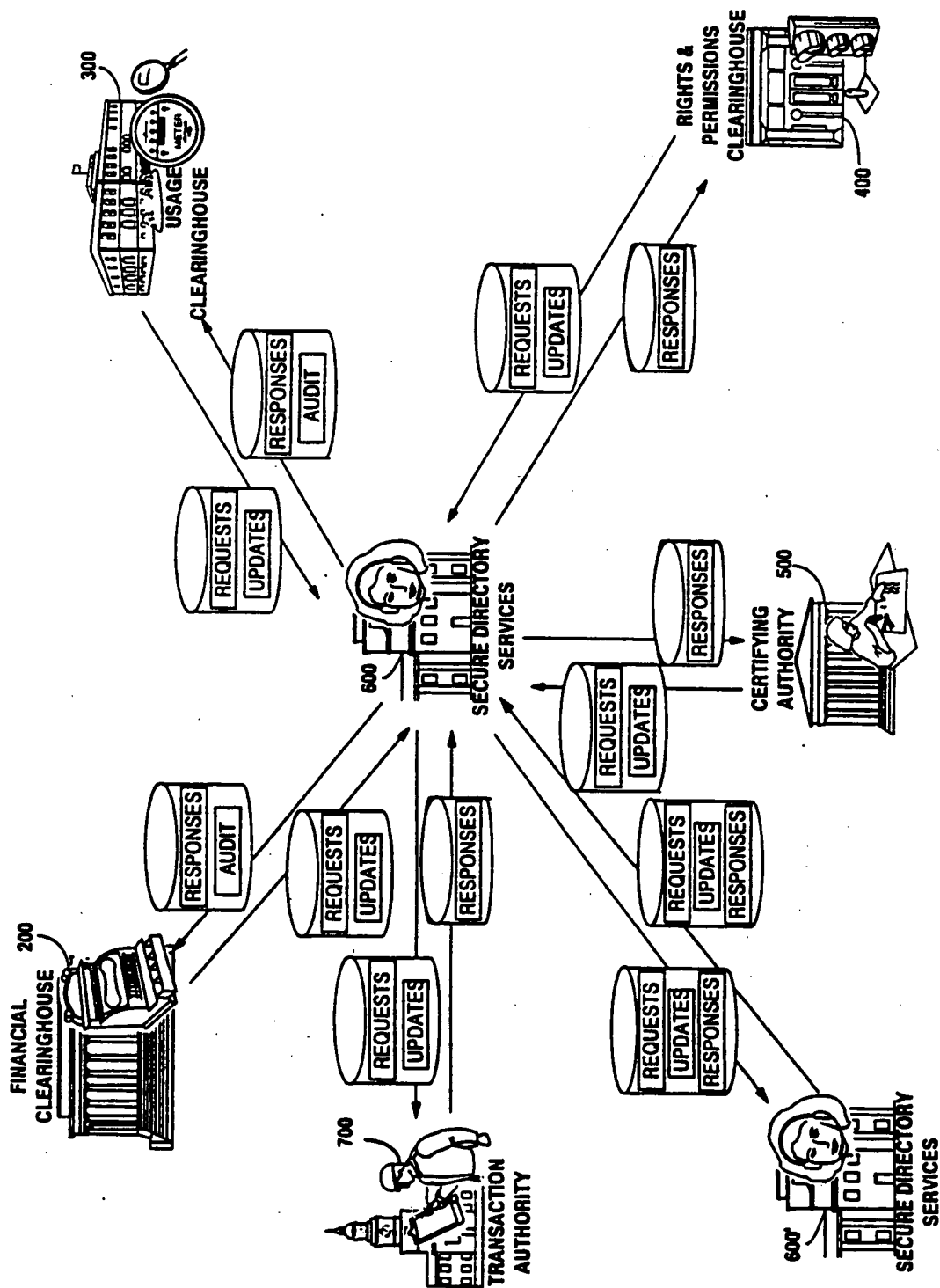
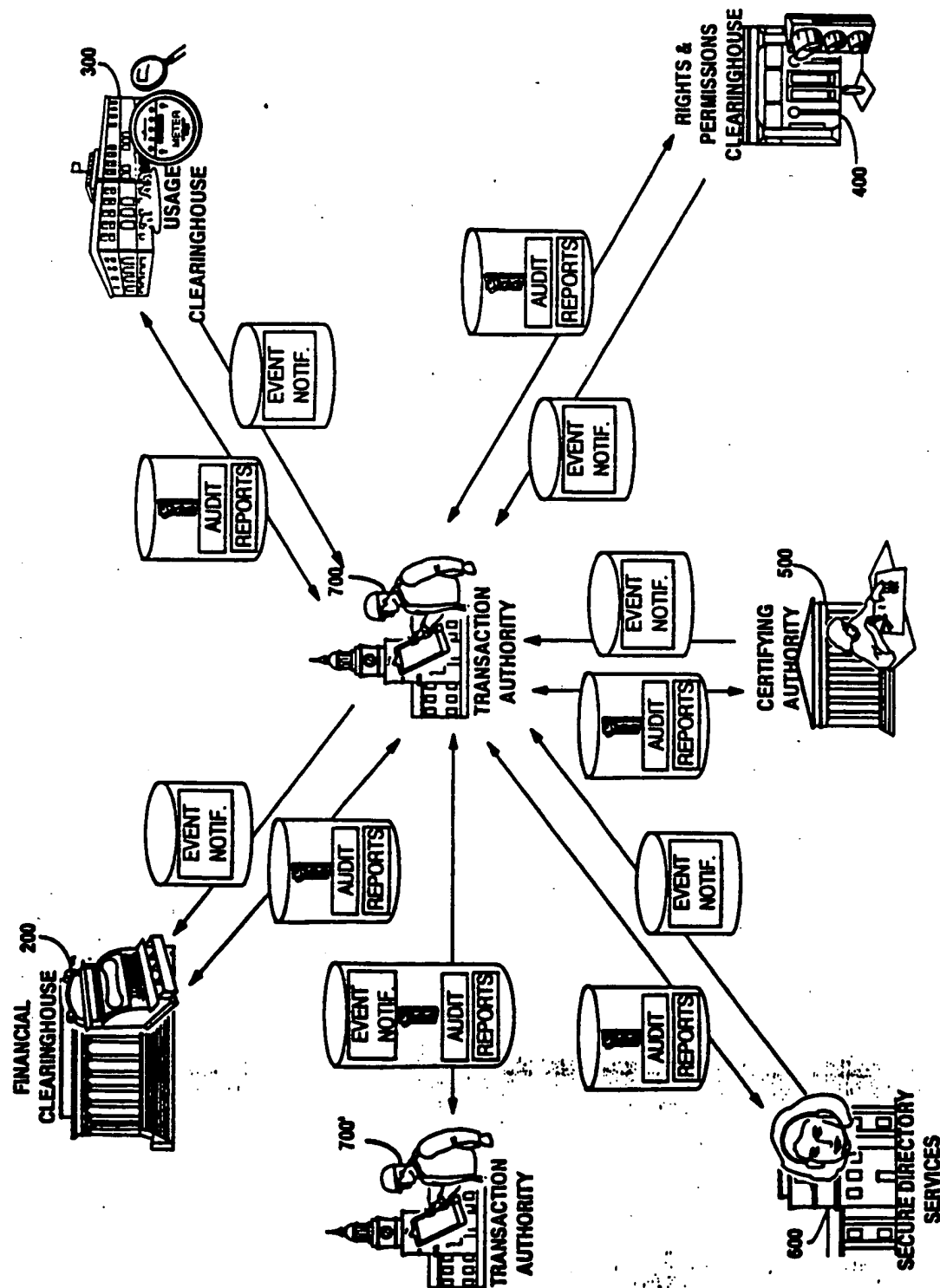


FIG. 16F



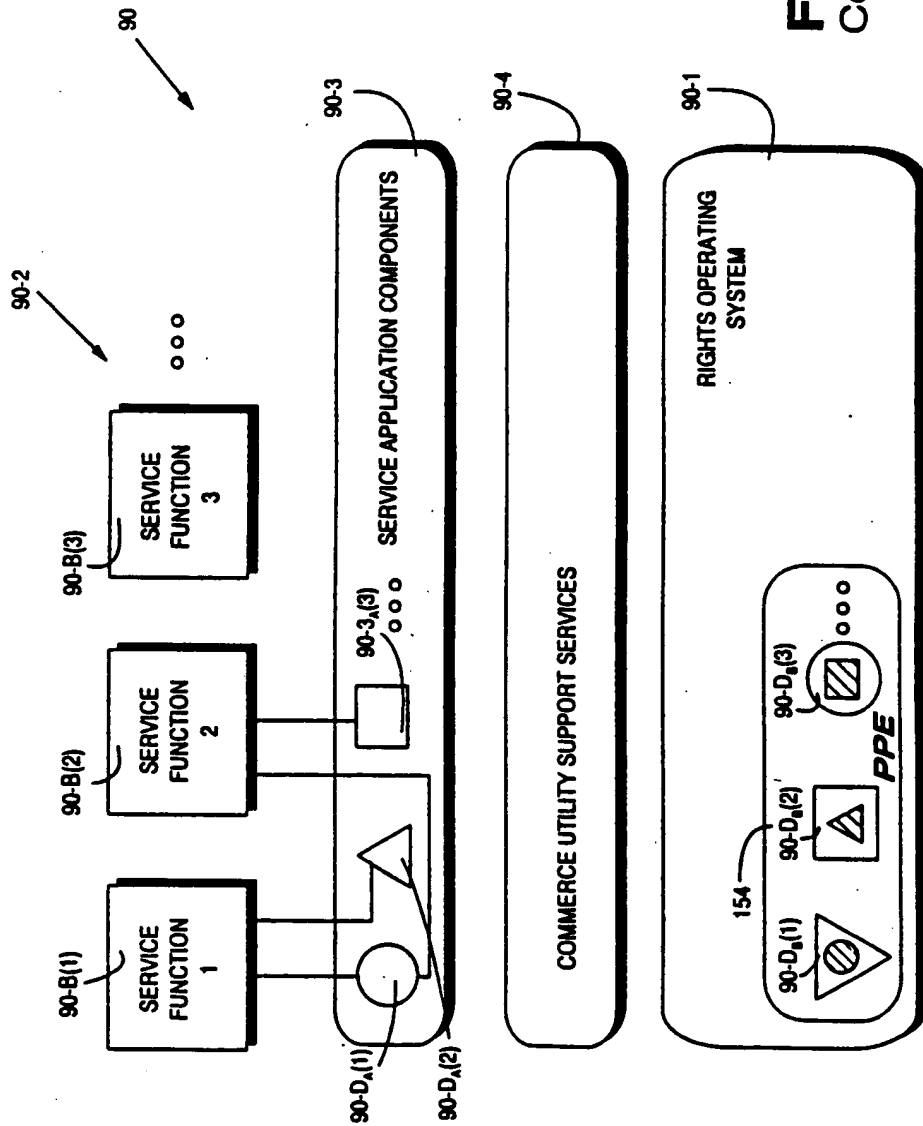


FIG. 17A
Commerce Utility System 90

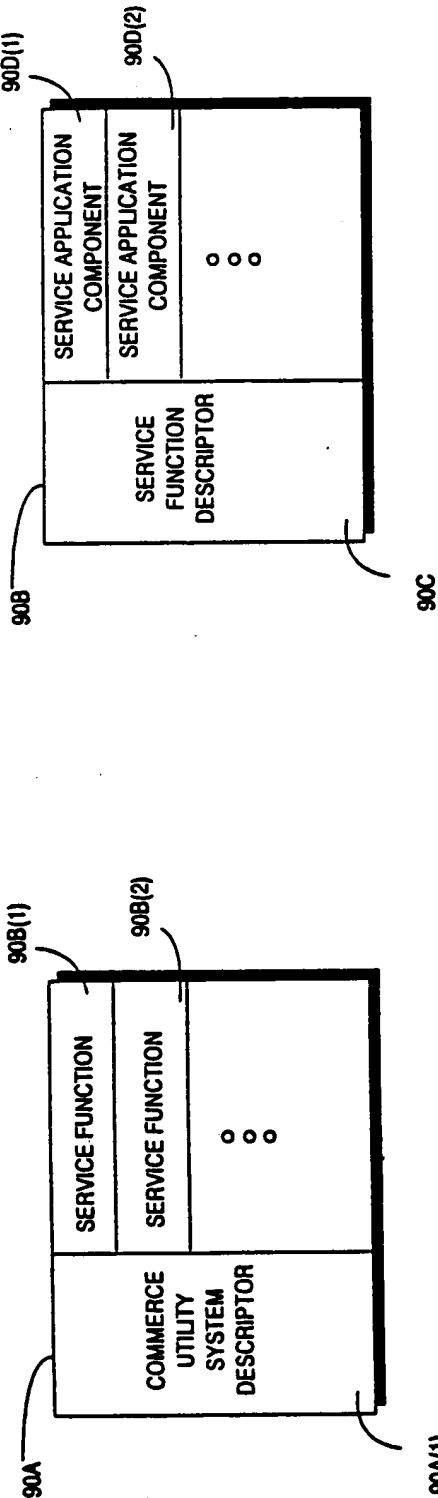


FIG. 17B

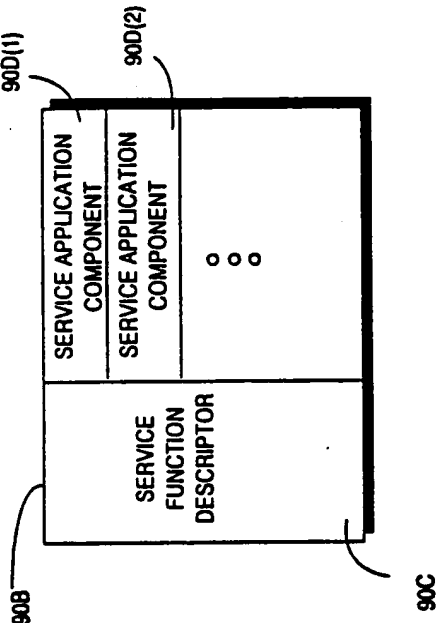


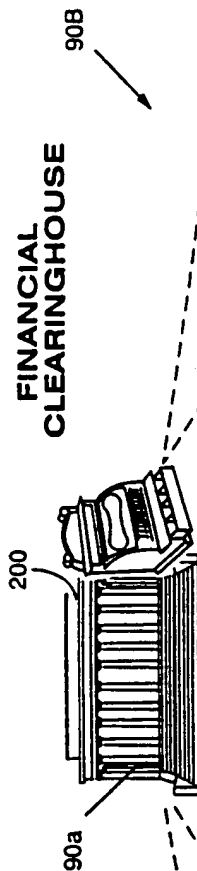
FIG. 17C

FIG. 17D-1

| | | | | | | | | | | | | | | |
|--|-------------------------------|---------------------------------------|----------------------------|---|--------------------------------------|--------------------------------------|-----------------------------------|-----|--------------------------|------------------------------|-------------------------|-------------------|--|---------------------------------|
| FINANCIAL CLEARINGHOUSE | USAGE CLEARINGHOUSE | RIGHTS & PERMISSIONS CLEARINGHOUSE | CERTIFICATE AUTHORITY | SECURE DIRECTORY SERVICES | TANGIBLES & PURCHASE & FULFILLMENT | INTANGIBLES & PURCHASE & FULFILLMENT | CONTRACT NEGOTIATIONS & EXECUTION | EDI | SECURE DOCUMENT DELIVERY | BUSINESS PROCESS INTEGRATION | ARBITRATION & MEDIATION | ELECTRONIC ORDERS | ELECTRONIC BANKING & CURRENCY MANAGEMENT | CYBERSPACE TRADING ENVIRONMENTS |
| AUDIT | MAINTAINING RECORDS | STATUS NOTIFICATION | EVENT DATABASE MANAGEMENT | CONTROL SET DATABASE MGMT | NOTARY | OBJECT IDENTIFIER ASSIGNMENT | REVOCACTION LIST MAINTENANCE | ... | | | | | | |
| OVERSEEING PROCESS | CONFIRMATIONS | ROUTING DATABASE | GENERATE CONTROL SETS | SEAL GENERATOR | DIGITAL TIME STAMP | COPYRIGHT REGISTRATION | ... | | | | | | | |
| MONITORING STATUS | UNCOMPLETED EVENTS RECORD | GENERATING REQUESTS | PROCESS CONTROL LOGIC | | | | ... | | | | | | | |
| COMPLETE PROCESS DEFINITION | REQUIREMENTS GENERATION | REPLICATION | EVENT FLOW GENERATION | FINGERPRINT /WATERMARK | CONTROL SET REGISTRY | | ... | | | | | | | |
| PROCESS CONTROL | REPORT GENERATION | PROPAGATION | ROUTING | OFFERS & COUNTER OFFERS | TEMPLATE REGISTRY | DIRECTOR DATABASE MANAGEMENT | ... | | | | | | | |
| INTERFACE(S) TO SETTLEMENT SERVICES | FUNDS TRANSFER | EVENT CONSEQUENCES | USAGE DATABASE MANAGEMENT | ARCHIVE | DATABASE QUERY & RESPONSE PROCESSING | | ... | | | | | | | |
| CURRENCY CONVERSION | TAX CALCULATION & APPLICATION | ACCOUNT RECONCILIATION | BILL CREATION & PROCESSING | RIGHTS & PERMISSION DATABASE MANAGEMENT | ADVERTISING DATABASE MANAGEMENT | | ... | | | | | | | |
| ACCOUNT CREATION & IDENTIFIER ASSIGNMENT | PAYMENT AGGREGATION | IDENTITY AUTHENTICATION | MARKET RESEARCH | TEMPLATE DATABASE MANAGEMENT | AUTOMATIC CLASS GENERATION | | ... | | | | | | | |
| PAYMENT DISAGGREGATION | BUDGET PRE-AUTHORIZATION | ELECTRONIC CURRENCY CREATION | NEGOTIATION | COMMERCE MGMT LANGUAGE PROCESSING | AUTOMATIC CLASS ASSIGNMENT | | ... | | | | | | | |
| .. | .. | RIGHTS MANAGEMENT LANGUAGE PROCESSING | .. | .. | .. | .. | .. | | | | | | | |
| .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | |

90B

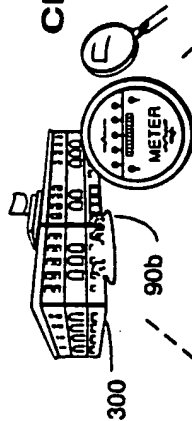
FIG. 17D-2



| | | | | | | | | |
|--|-------------------------------|------------------------------|---------------------------------------|---|--------------------------------------|------------------------------|----------------------|-----|
| AUDIT | MAINTAINING RECORDS | STATUS NOTIFICATION | EVENT DATABASE MANAGEMENT | CONTROL SET DATABASE MGMT | NOTARY | OBJECT REGISTRY | CERTIFICATE CREATION | ... |
| OVERSEEING PROCESS | CONFIRMATIONS | ROUTING DATABASE | GENERATE CONTROL SETS | SEAL GENERATOR | OBJECT IDENTIFIER ASSIGNMENT | REVOCATION LIST MAINTENANCE | ... | ... |
| MONITORING STATUS | UNCOMPLETED EVENTS RECORD | GENERATING REQUESTS | PROCESS CONTROL LOGIC | DIGITAL TIME STAMP | COPYRIGHT REGISTRATION | ... | ... | ... |
| COMPLETE PROCESS DEFINITION | REQUIREMENTS GENERATION | REPLICATION | EVENT FLOW GENERATION | FINGERPRINT /WATERMARK | CONTROL SET REGISTRY | ... | ... | ... |
| PROCESS CONTROL | REPORT GENERATION | PROPAGATION | ROUTING | OFFERS & COUNTER OFFERS | TEMPLATE REGISTRY | DIRECTOR DATABASE MANAGEMENT | ... | ... |
| INTERFACE(S) TO SETTLEMENT SERVICES | FUNDS TRANSFER | EVENT CONSEQUENCES | USAGE DATABASE MANAGEMENT | ARCHIVE | DATABASE QUERY & RESPONSE PROCESSING | ... | ... | ... |
| CURRENCY CONVERSION | TAX CALCULATION & APPLICATION | ACCOUNT RECONCILIATION | BILL CREATION & PROCESSING | RIGHTS & PERMISSION DATABASE MANAGEMENT | ADVERTISING DATABASE MANAGEMENT | ... | ... | ... |
| ACCOUNT CREATION & IDENTIFIER ASSIGNMENT | PAYMENT AGGREGATION | IDENTITY AUTHENTICATION | MARKET RESEARCH | TEMPLATE DATABASE MANAGEMENT | AUTOMATIC CLASS GENERATION | ... | ... | ... |
| PAYMENT DISAGGREGATION | BUDGET PRE-AUTHORIZATION | ELECTRONIC CURRENCY CREATION | NEGOTIATION | COMMERCE MGMT LANGUAGE PROCESSING | AUTOMATIC CLASS ASSIGNMENT | ... | ... | ... |
| : | : | : | RIGHTS MANAGEMENT LANGUAGE PROCESSING | : | : | : | : | : |

FIG. 17D-3

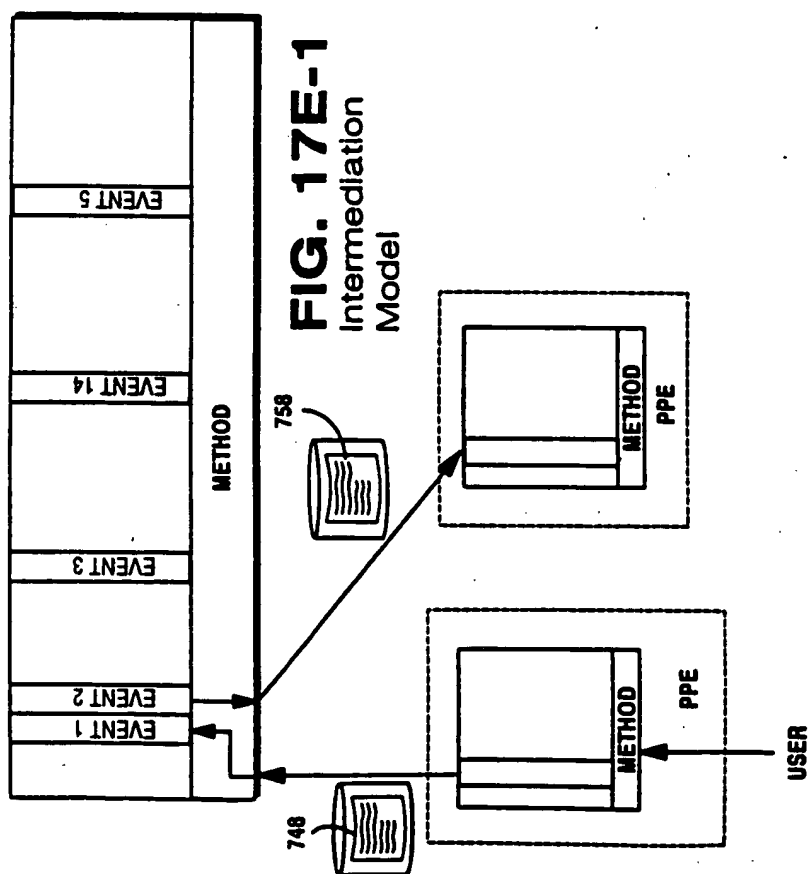
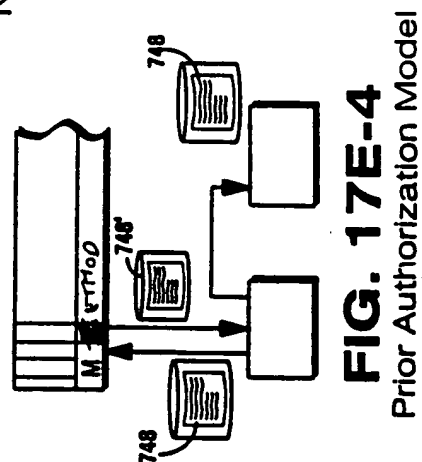
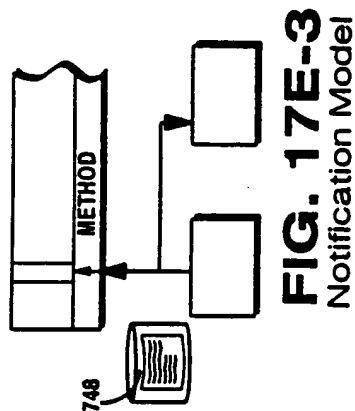
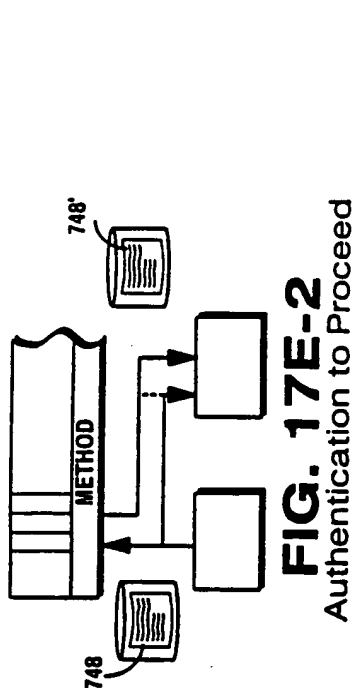
USAGE
CLEARINGHOUSE

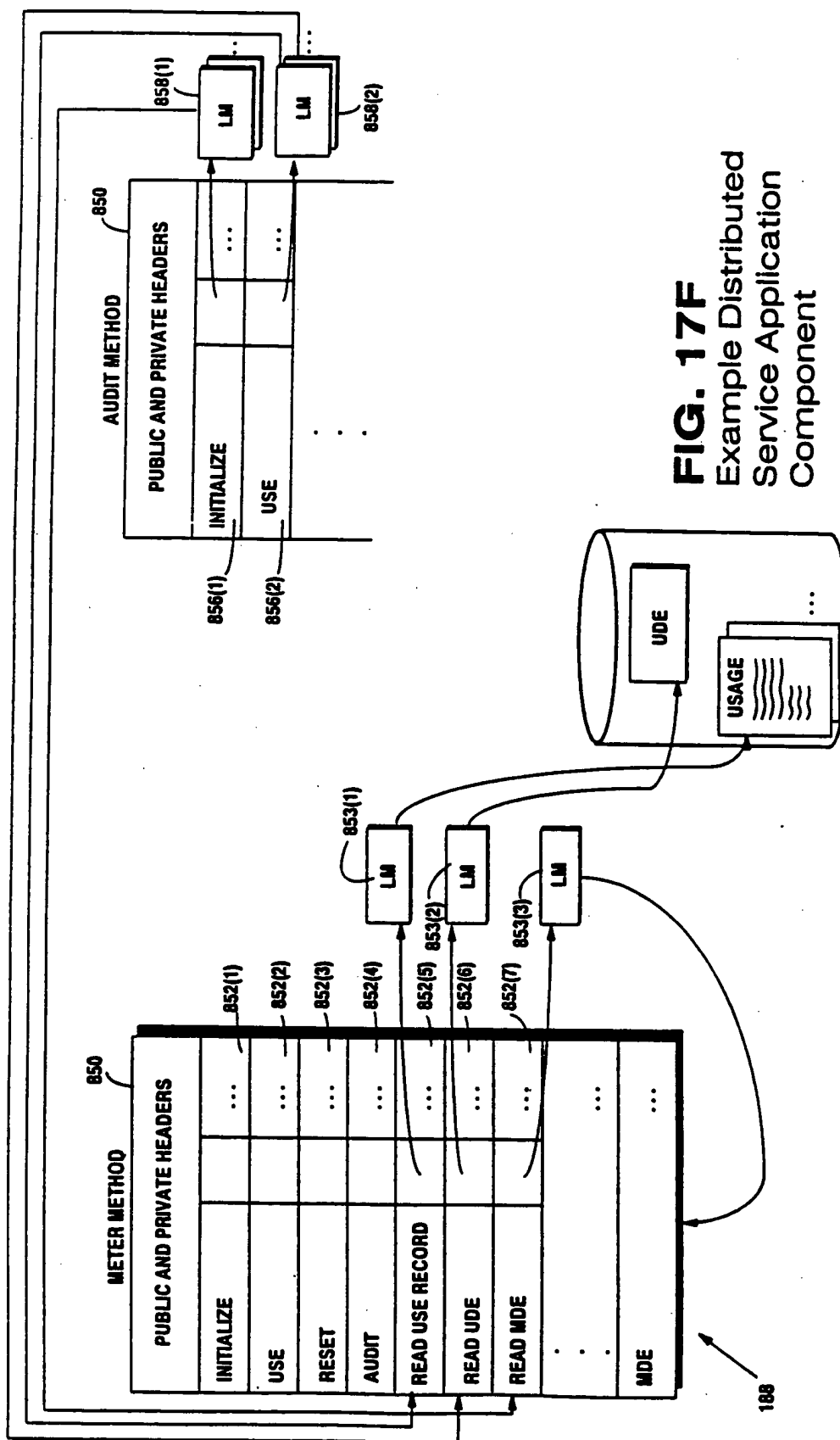


90b

300

| AUDIT | MAINTAINING RECORDS | STATUS NOTIFICATION | EVENT DATABASE MANAGEMENT | CONTROL SET DATABASE MGMT | NOTARY | OBJECT REGISTRY | CERTIFICATE CREATION | ... |
|--|-------------------------------|------------------------------|---------------------------------------|---|--------------------------------------|------------------------------|----------------------|-----|
| OVERSEEING PROCESS | CONFIRMATIONS | ROUTING DATABASE | GENERATE CONTROL SETS | SEAL GENERATOR | OBJECT IDENTIFIER ASSIGNMENT | REVOCATION LIST MAINTENANCE | ... | ... |
| MONITORING STATUS | UNCOMPLETED EVENTS RECORD | GENERATING REQUESTS | PROCESS CONTROL LOGIC | DIGITAL TIME STAMP | COPYRIGHT REGISTRATION | ... | ... | ... |
| COMPLETE PROCESS DEFINITION | REQUIREMENTS GENERATION | REPLICATION | EVENT FLOW GENERATION | FINGERPRINT / WATERMARK | CONTROL SET REGISTRY | ... | ... | ... |
| PROCESS CONTROL | REPORT GENERATION | PROPAGATION | ROUTING | OFFERS & COUNTER OFFERS | TEMPLATE REGISTRY | DIRECTOR DATABASE MANAGEMENT | ... | ... |
| INTERFACE(S) TO SETTLEMENT SERVICES | FUNDS TRANSFER | EVENT CONSEQUENCES | USAGE DATABASE MANAGEMENT | ARCHIVE | DATABASE QUERY & RESPONSE PROCESSING | ... | ... | ... |
| CURRENCY CONVERSION | TAX CALCULATION & APPLICATION | ACCOUNT RECONCILIATION | BILL CREATION & PROCESSING | RIGHTS & PERMISSION DATABASE MANAGEMENT | ADVERTISING DATABASE MANAGEMENT | ... | ... | ... |
| ACCOUNT CREATION & IDENTIFIER ASSIGNMENT | PAYMENT AGGREGATION | IDENTITY AUTHENTICATION | MARKET RESEARCH | TEMPLATE DATABASE MANAGEMENT | AUTOMATIC CLASS GENERATION | ... | ... | ... |
| PAYMENT DISAGGREGATION | BUDGET PRE-AUTHORIZATION | ELECTRONIC CURRENCY CREATION | NEGOTIATION | COMMERCE MGMT LANGUAGE PROCESSING | AUTOMATIC CLASS ASSIGNMENT | ... | ... | ... |
| : | : | : | RIGHTS MANAGEMENT LANGUAGE PROCESSING | : | : | : | : | : |





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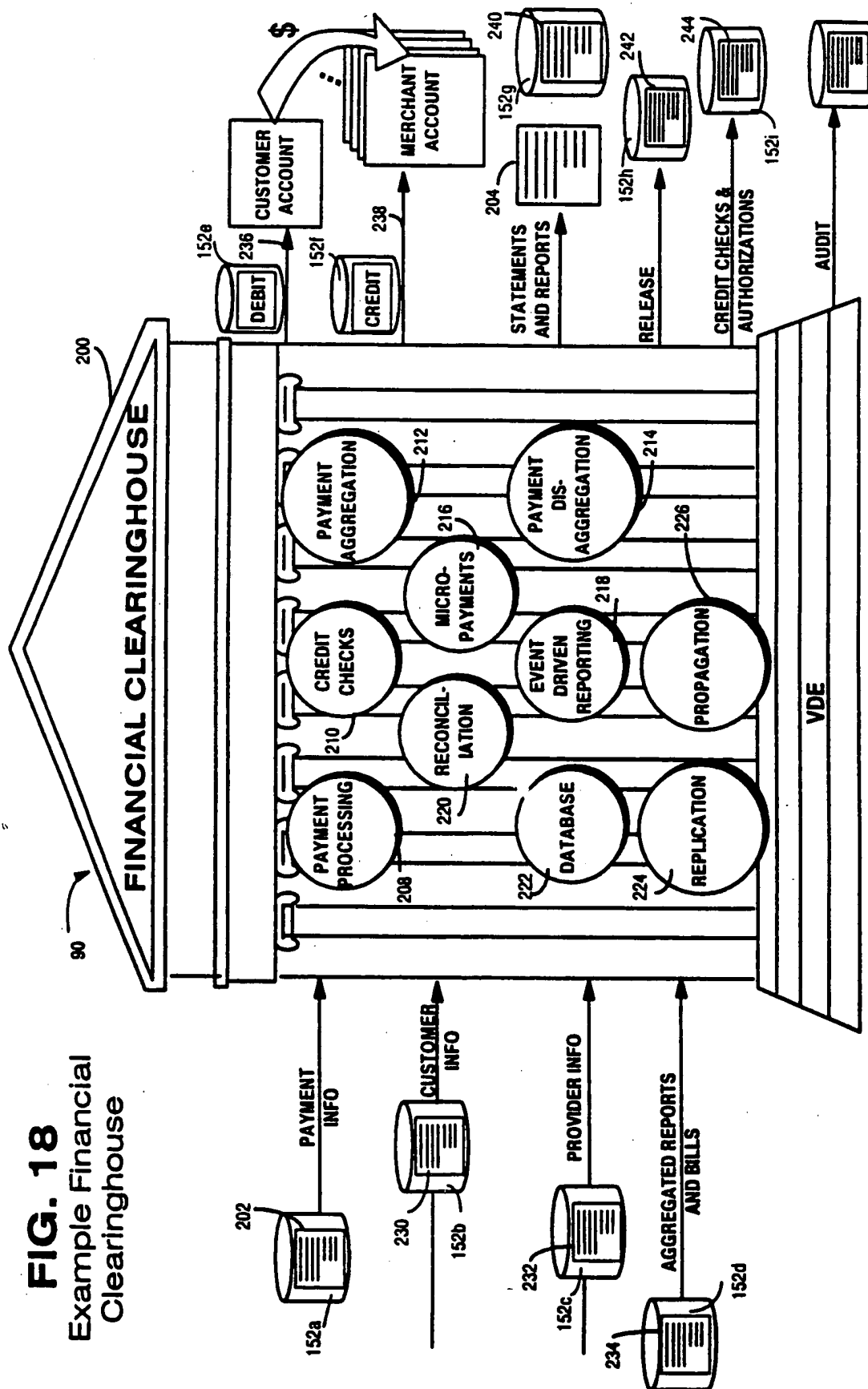


FIG. 19
Example Financial
Clearinghouse
Arrangement

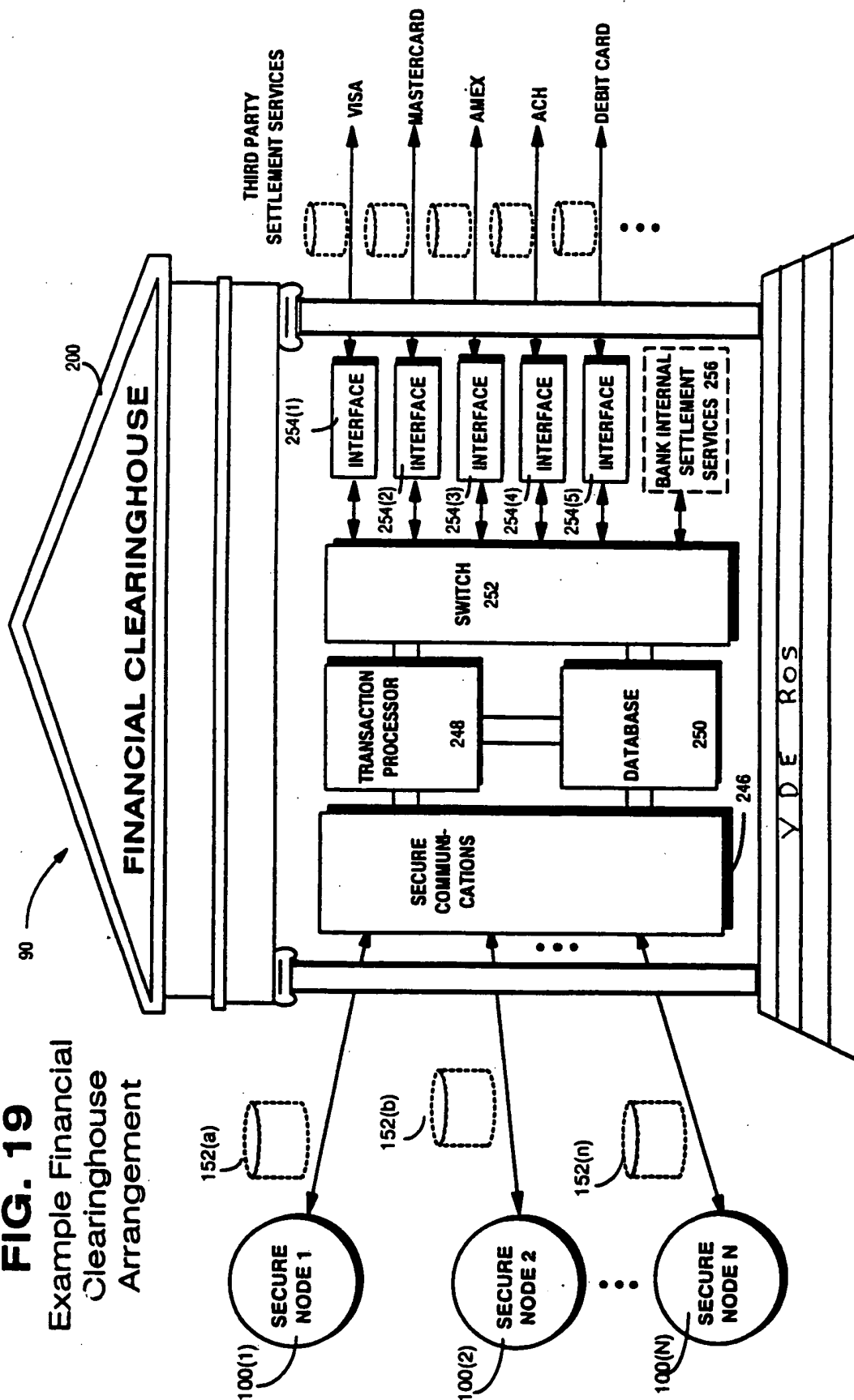
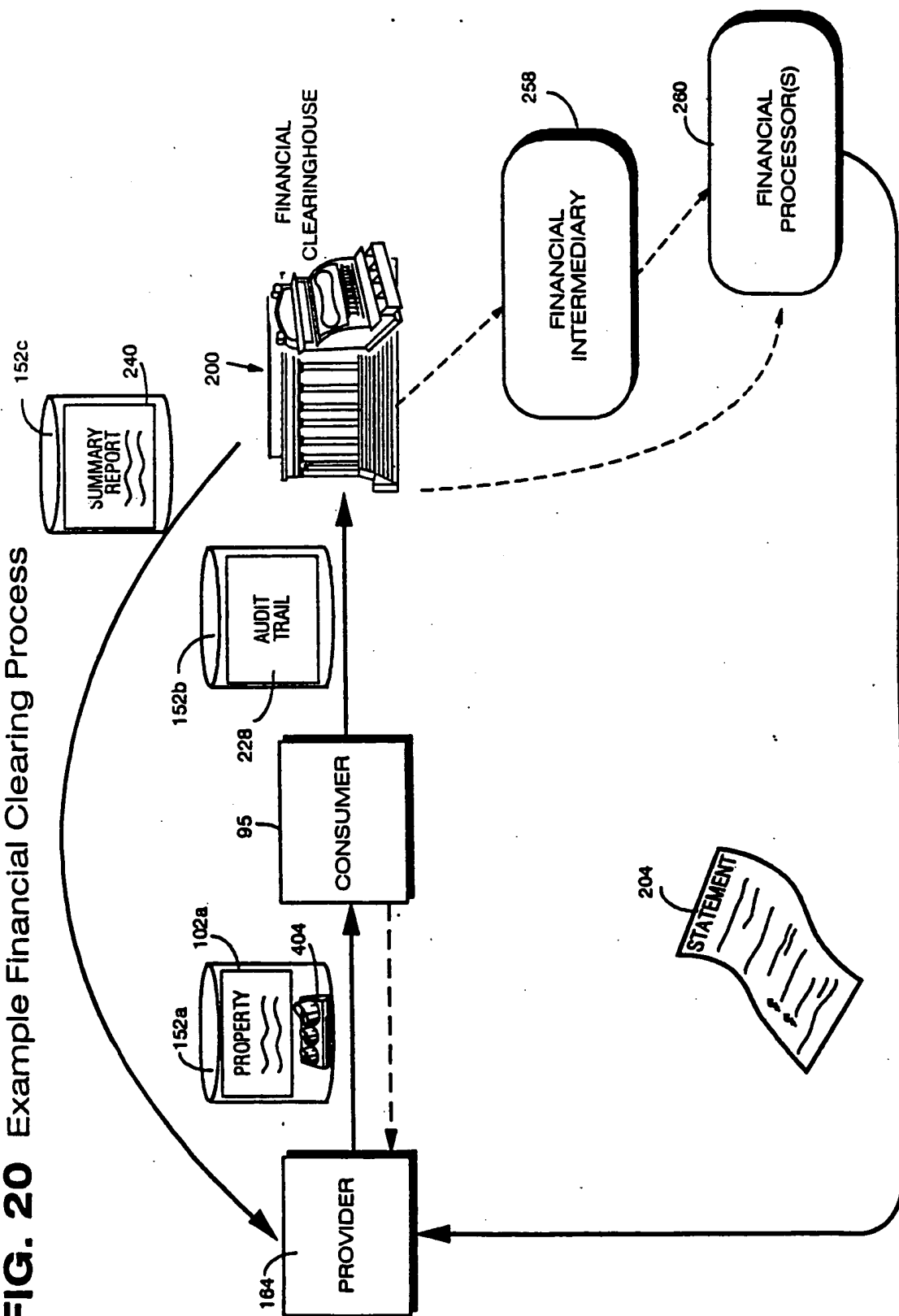


FIG. 20 Example Financial Clearing Process



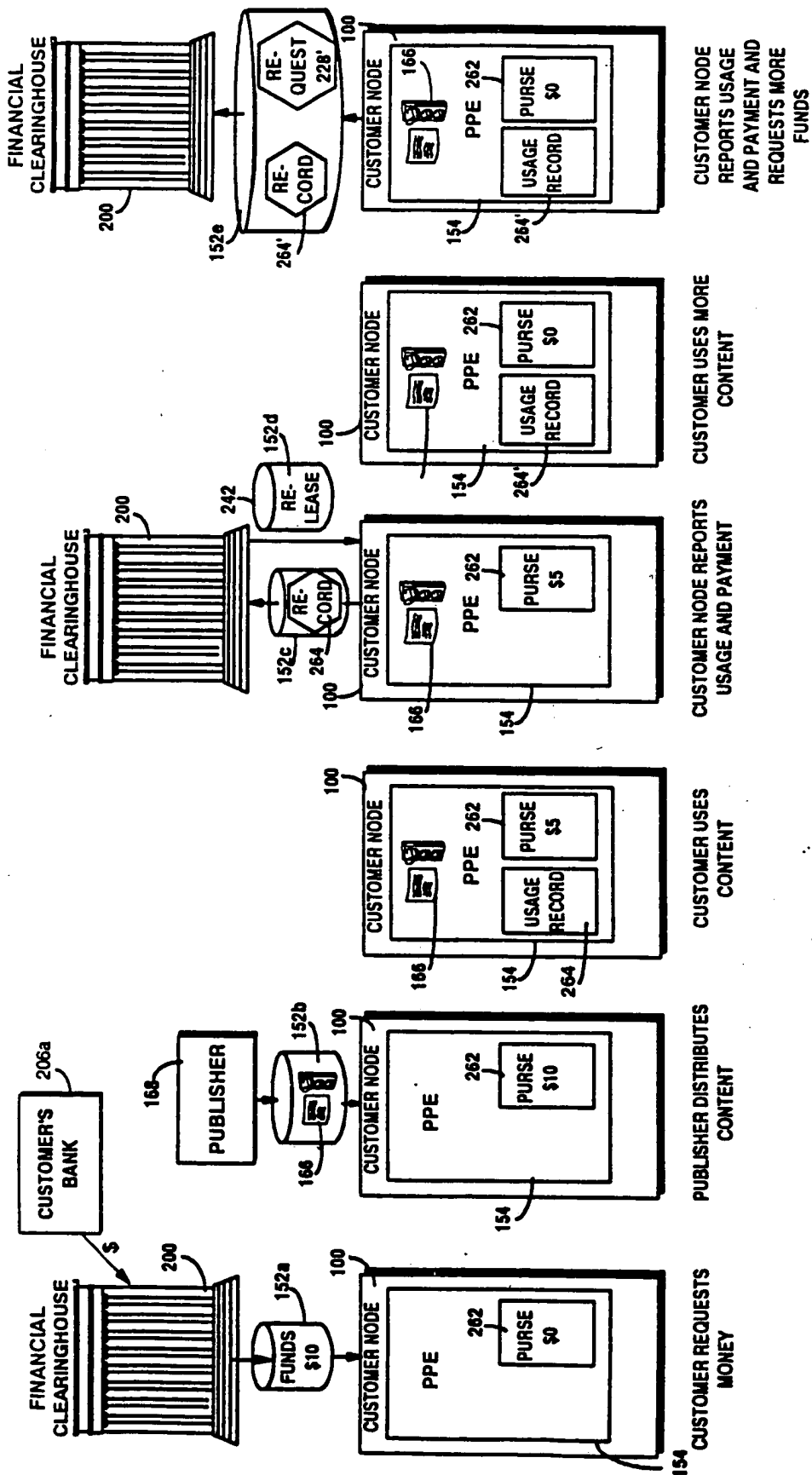


FIG. 20A

FIG. 20B

FIG. 20C

FIG. 20D

FIG. 20E

FIG. 20F

EXAMPLE FINANCIAL CLEARING ACTIVITIES

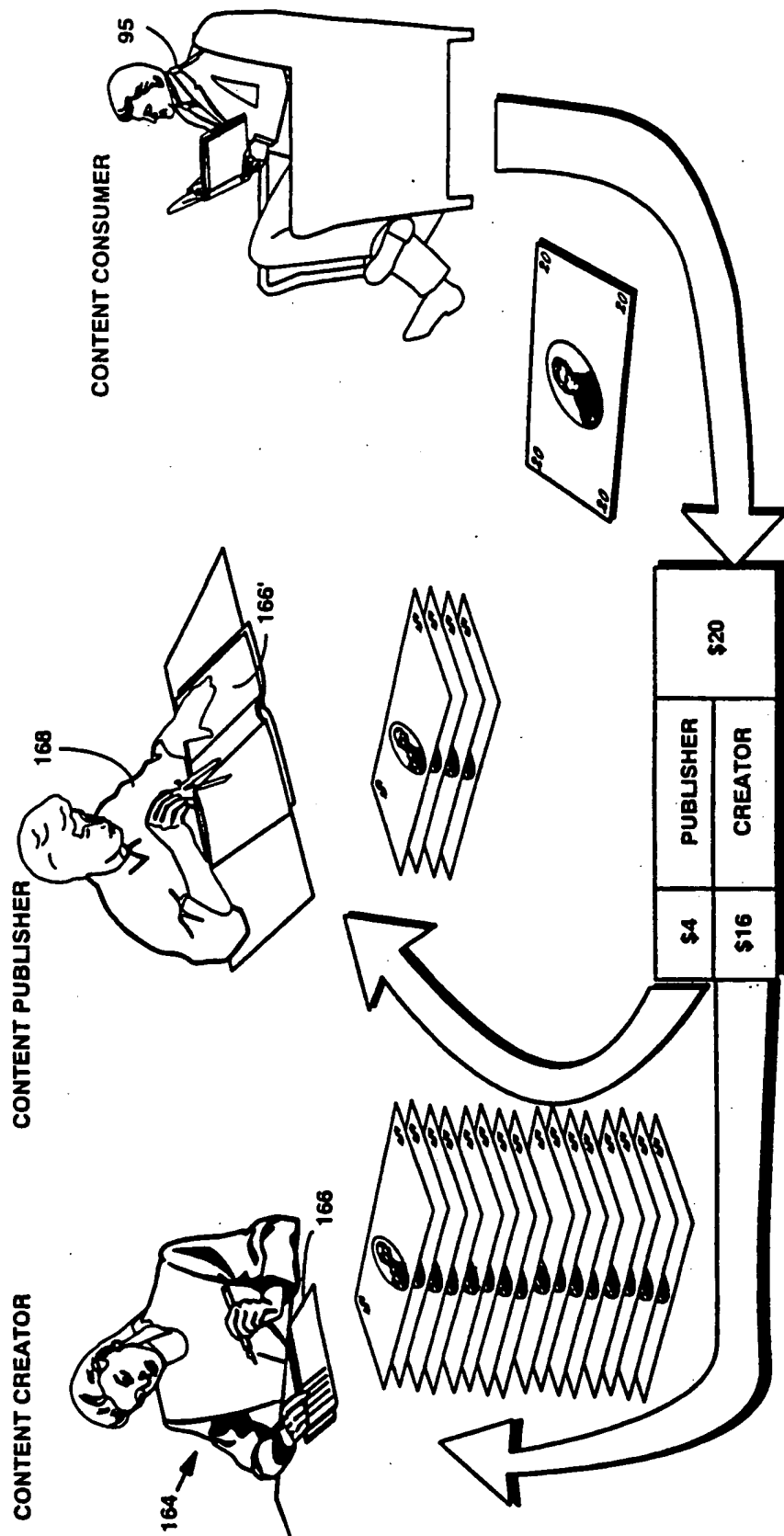


FIG. 21 Example Payment Disaggregation

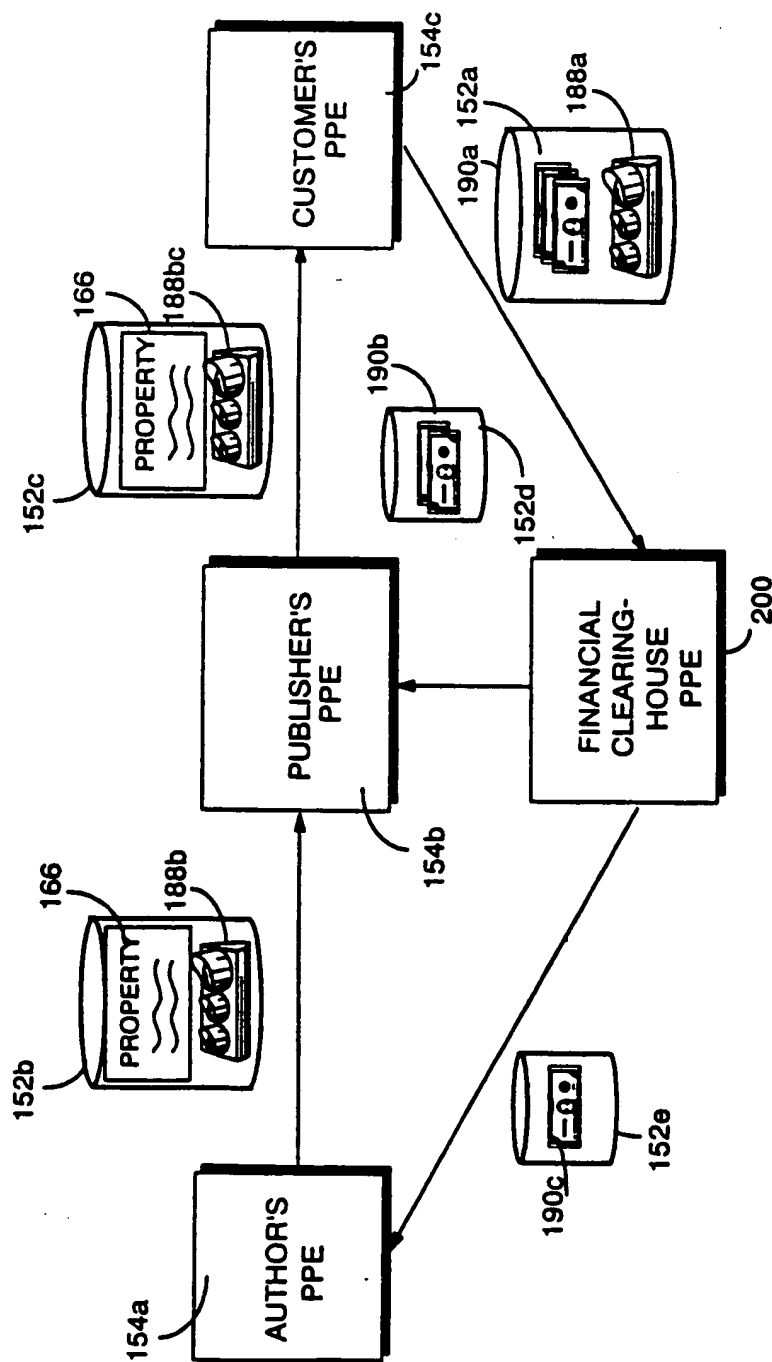


FIG. 22 PAYMENT AND REDISTRIBUTION EXAMPLE

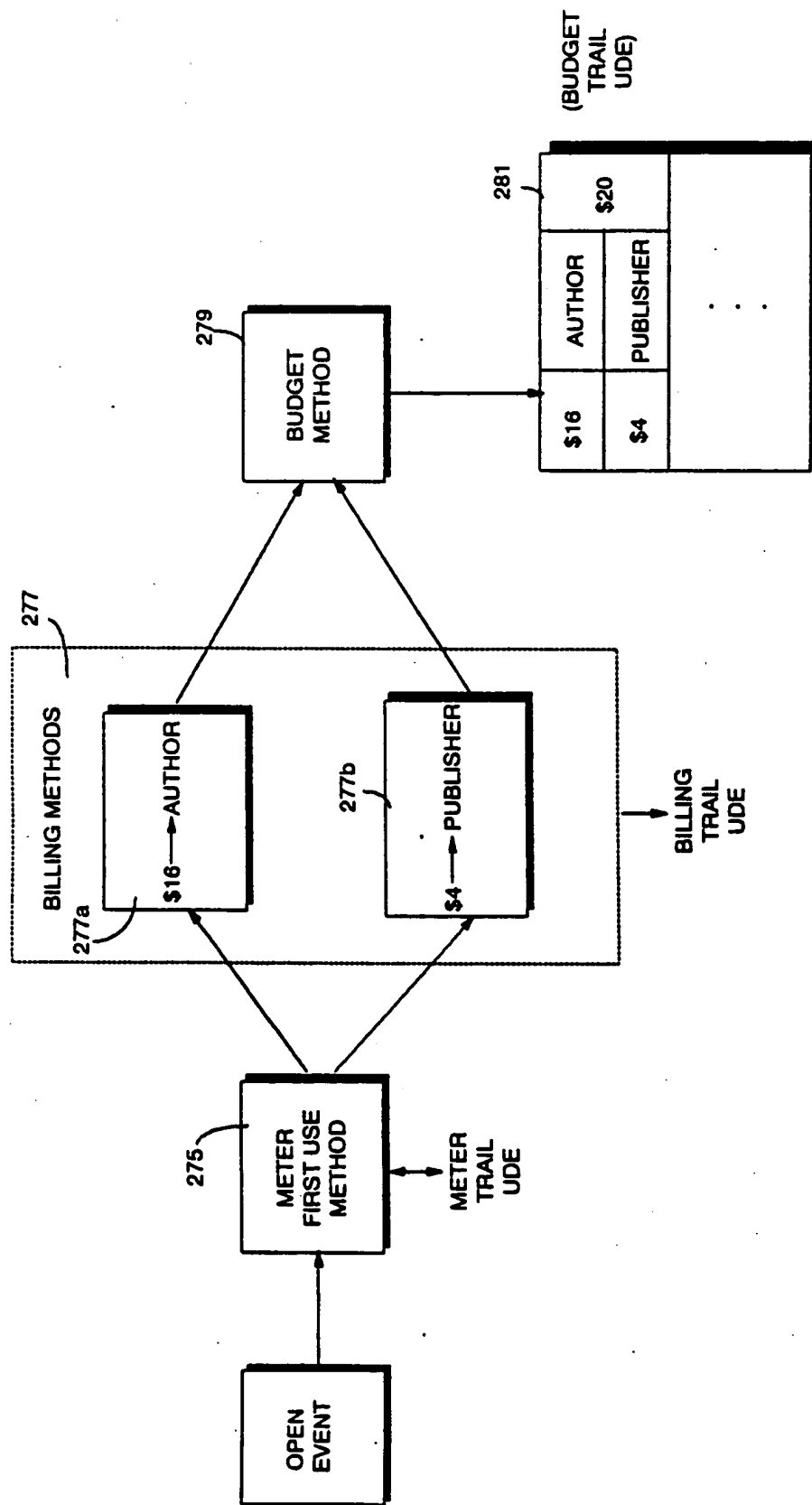


FIG. 22A User Node Disaggregation Example

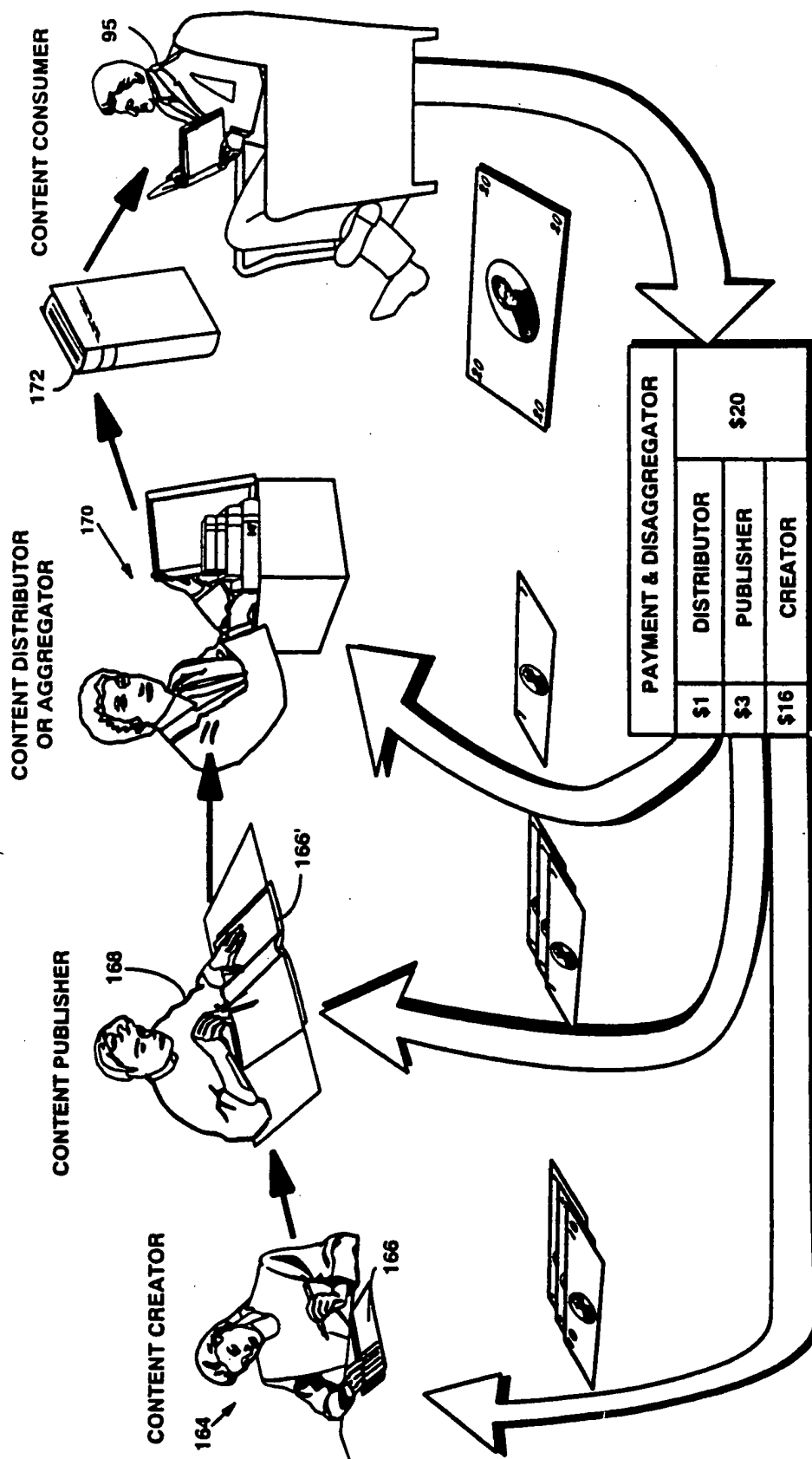
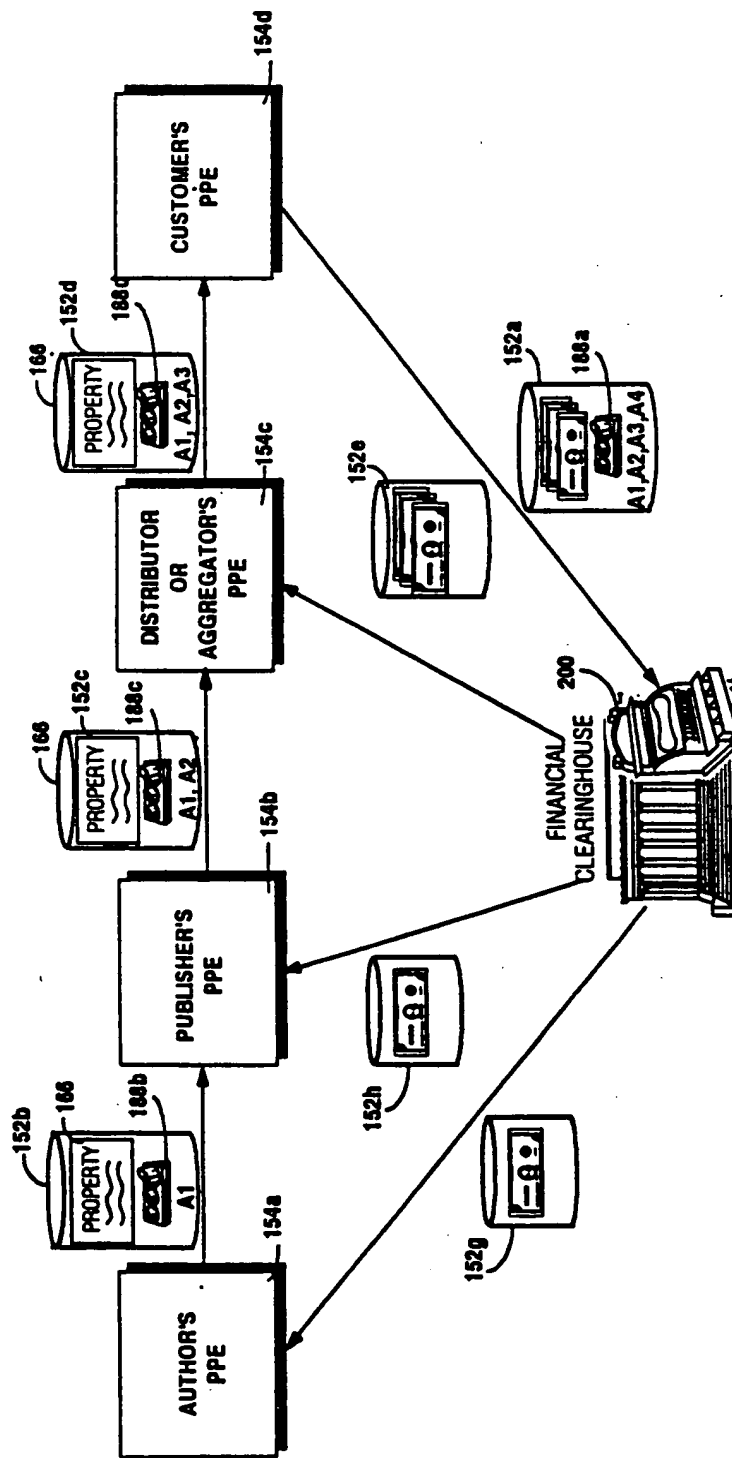


FIG. 23 Payment Disaggregation

FIG. 24
EXAMPLE PAYMENT
AND REDISTRIBUTION
SCENARIO



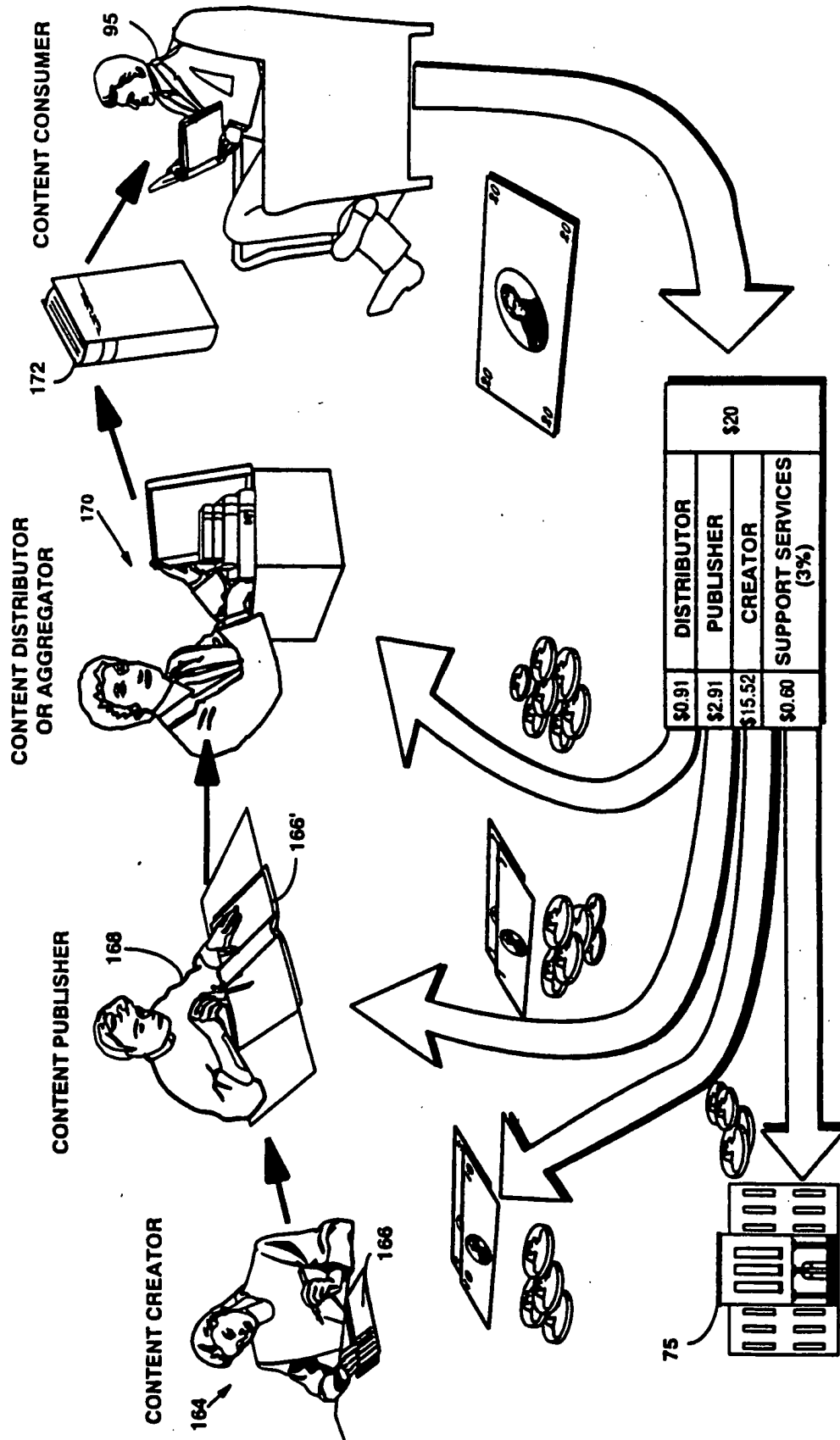


FIG. 25 Example Payment Disaggregation

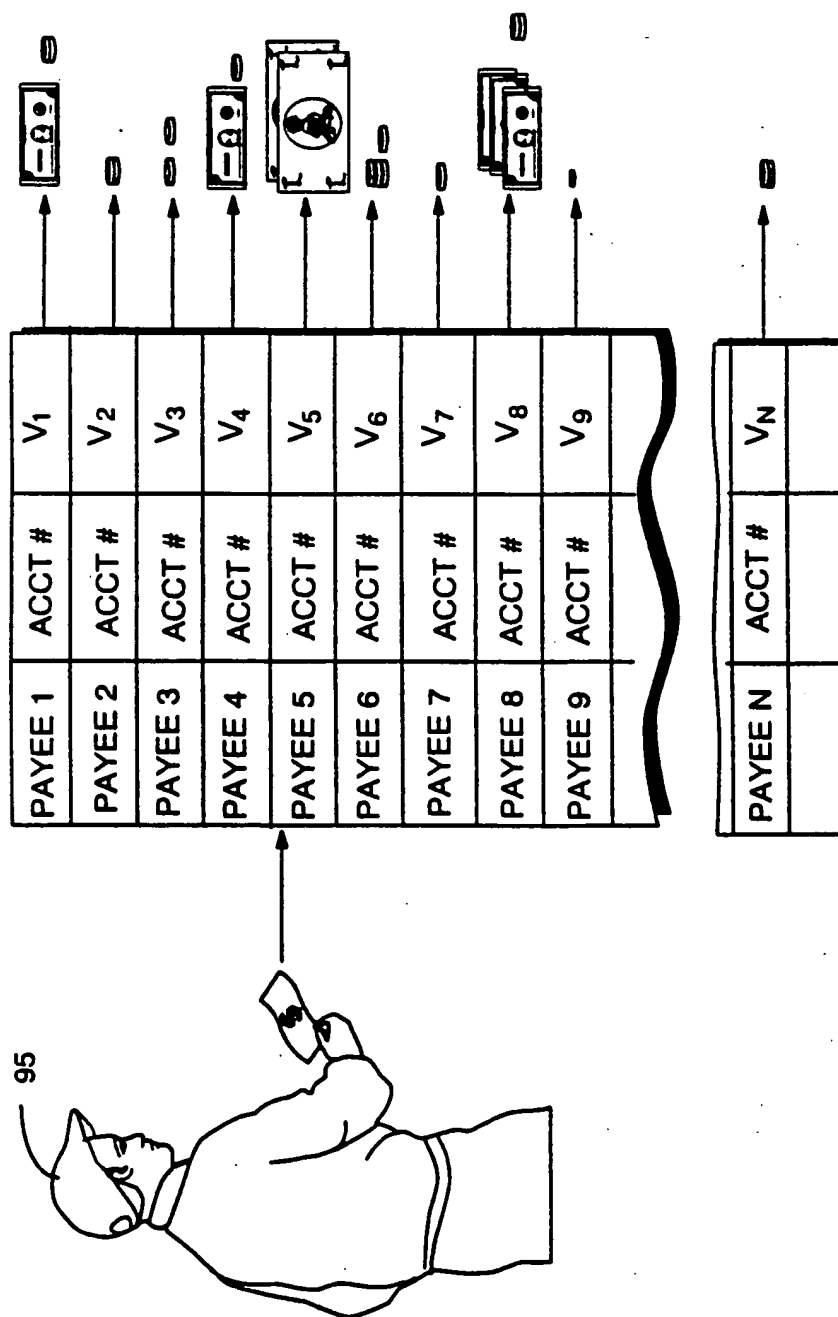


FIG. 26 PAYMENT DISAGGREGATION

FIG. 27
Example Payment and
Redistribution Scenario

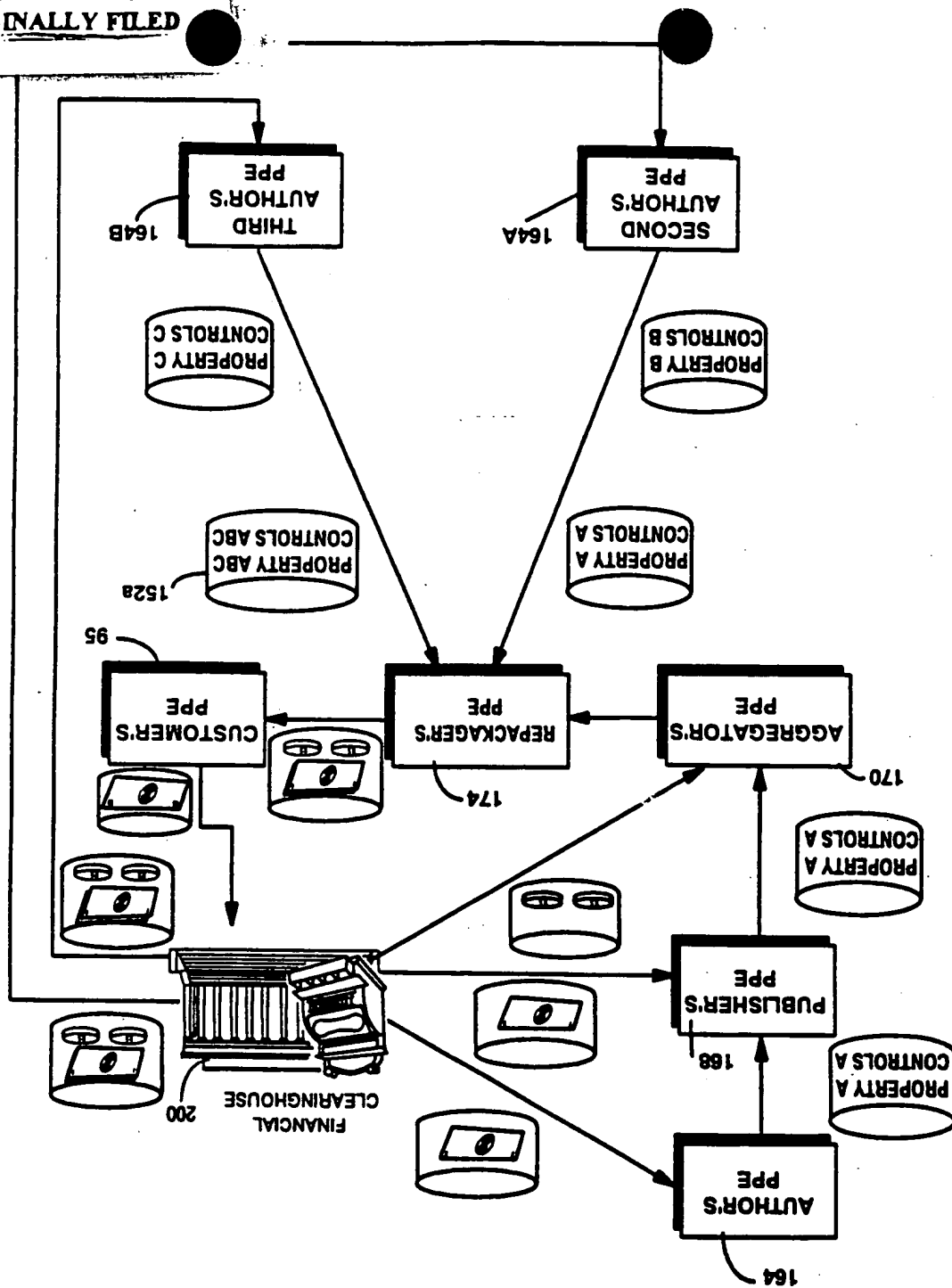
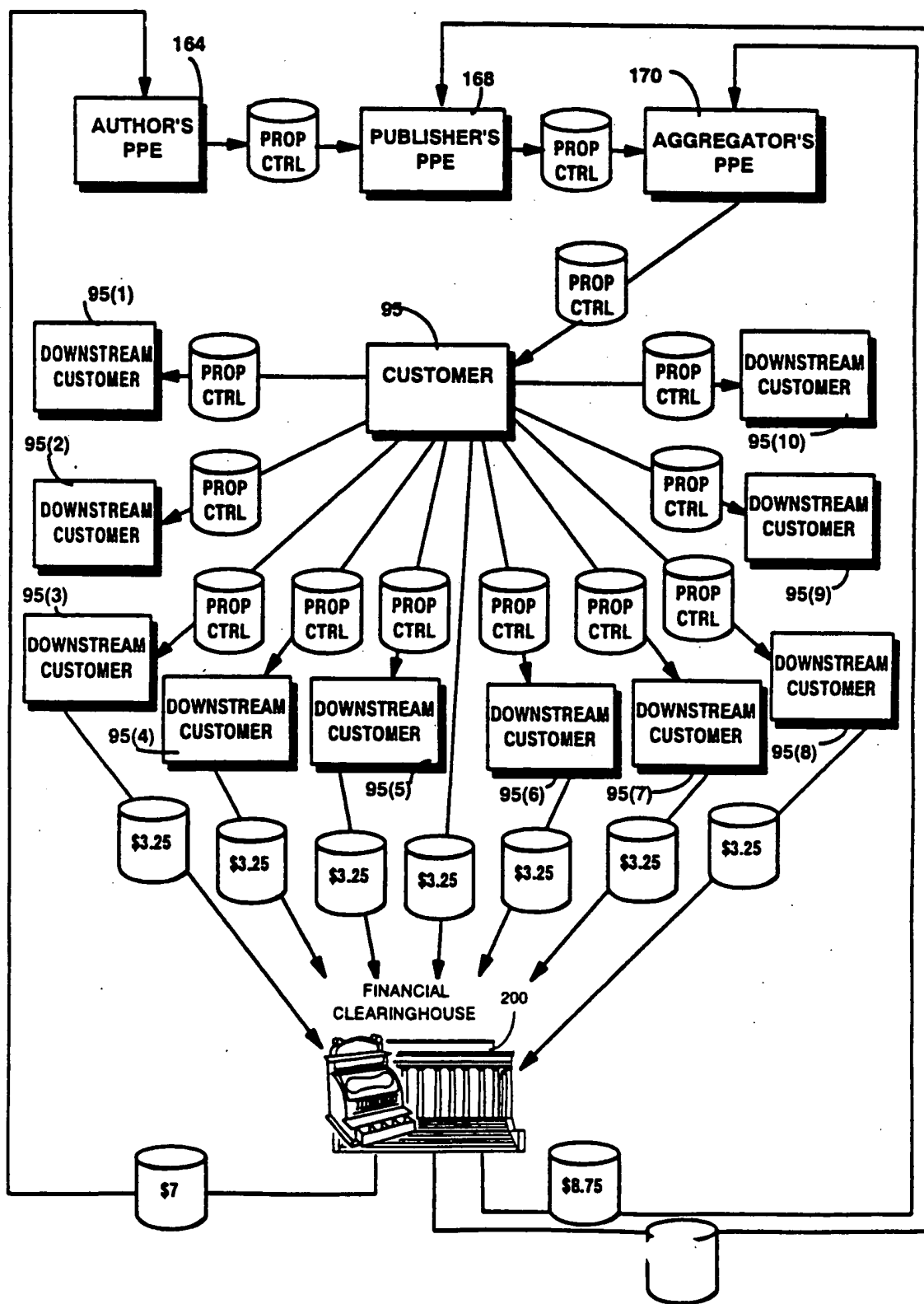


FIG. 28 Example Super Distribution



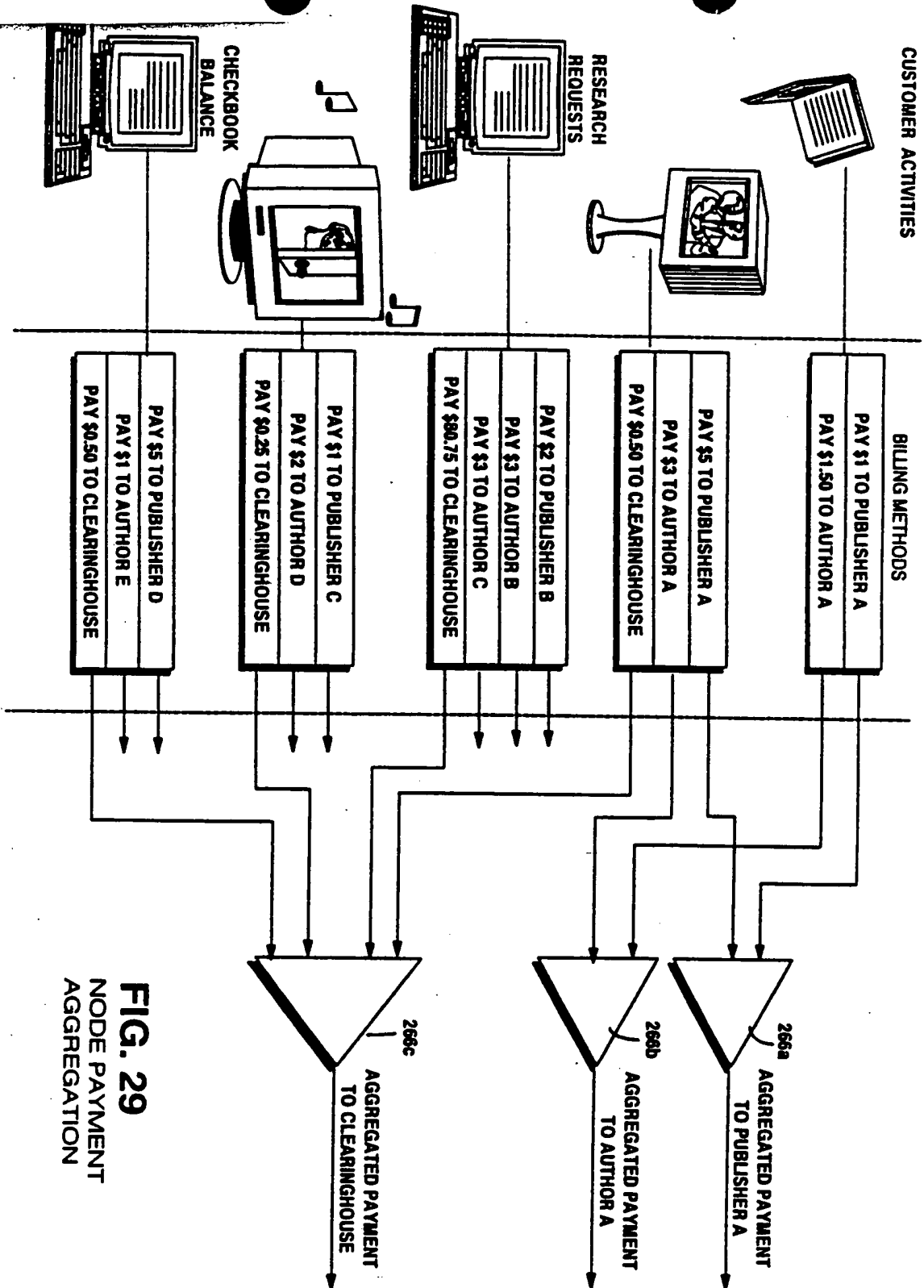


FIG. 29
NODE PAYMENT
AGGREGATION

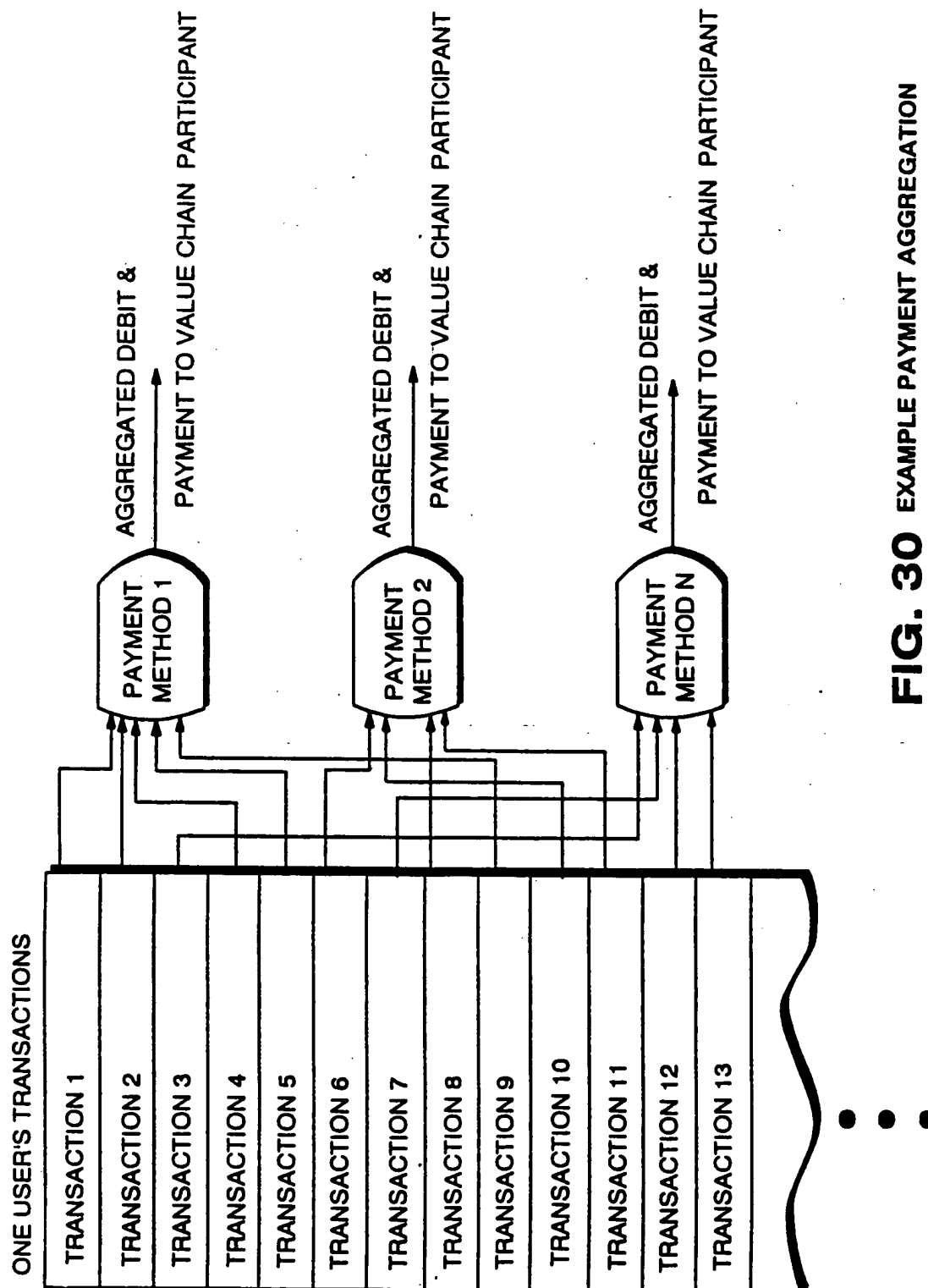


FIG. 30 EXAMPLE PAYMENT AGGREGATION

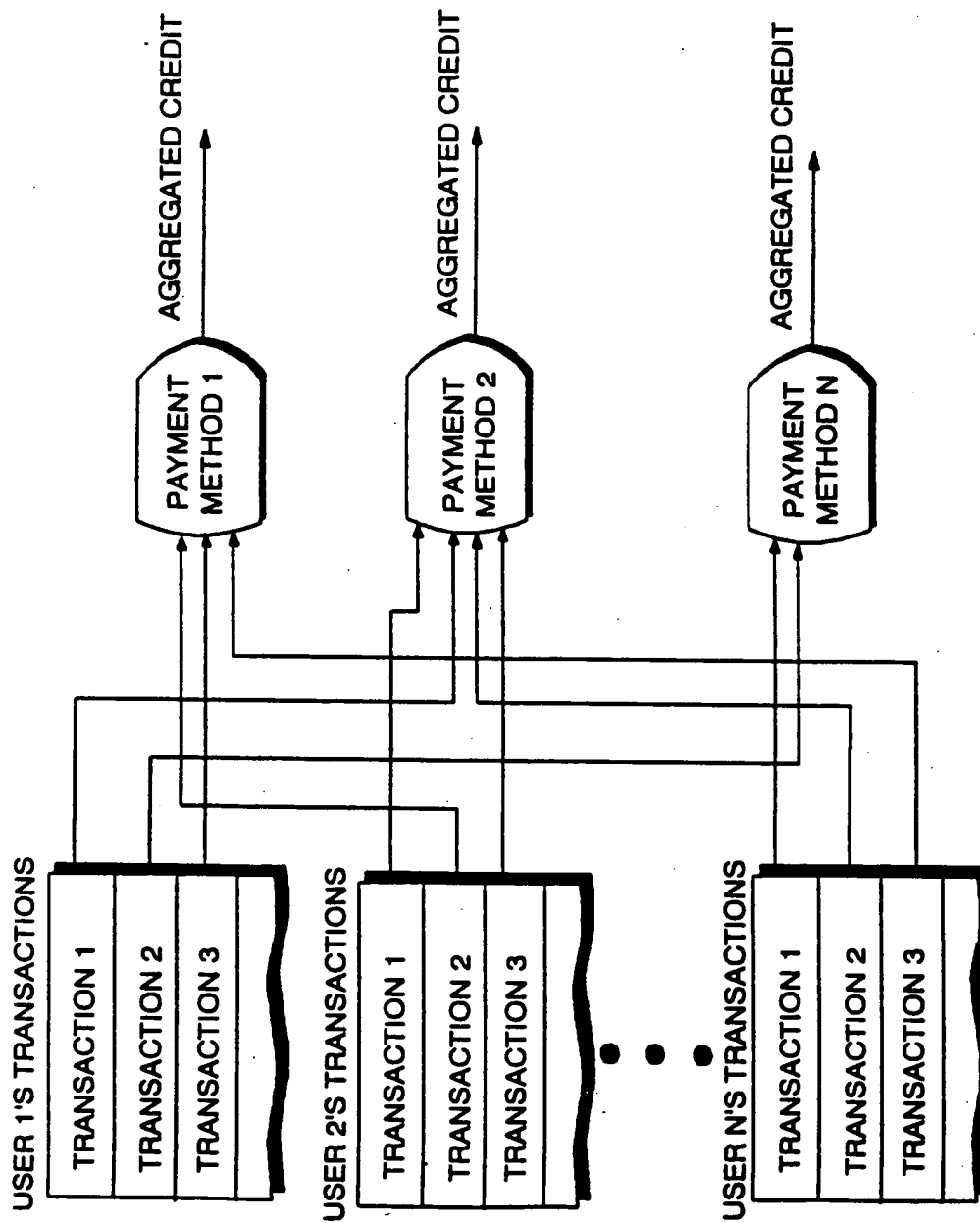


FIG. 31 Financial Clearinghouse
Example Payment Aggregation

FIG. 32 EXAMPLE FINANCIAL CLEARINGHOUSE ARRANGEMENT

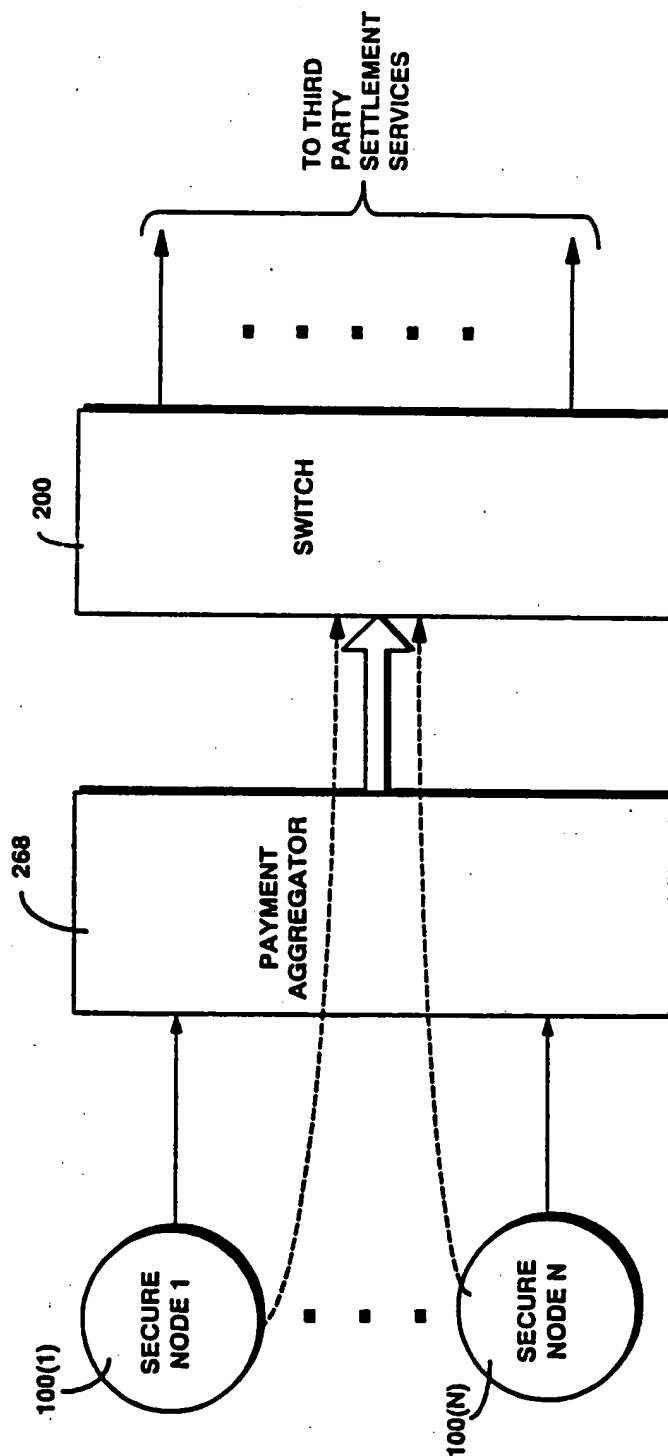


FIG. 33
Example Usage
Clearinghouse

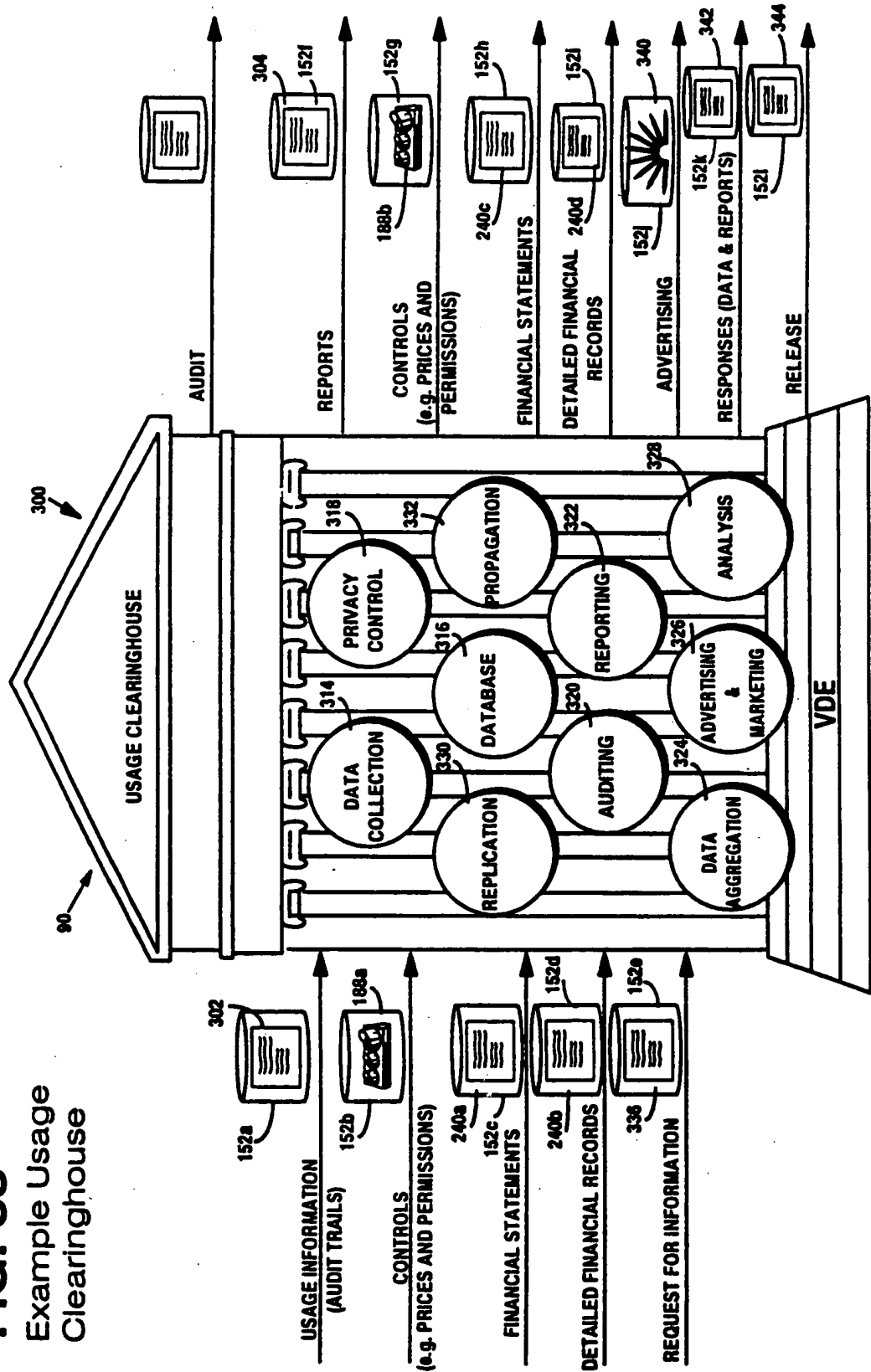


FIG. 34
EXAMPLE USAGE
CLEARINGHOUSE

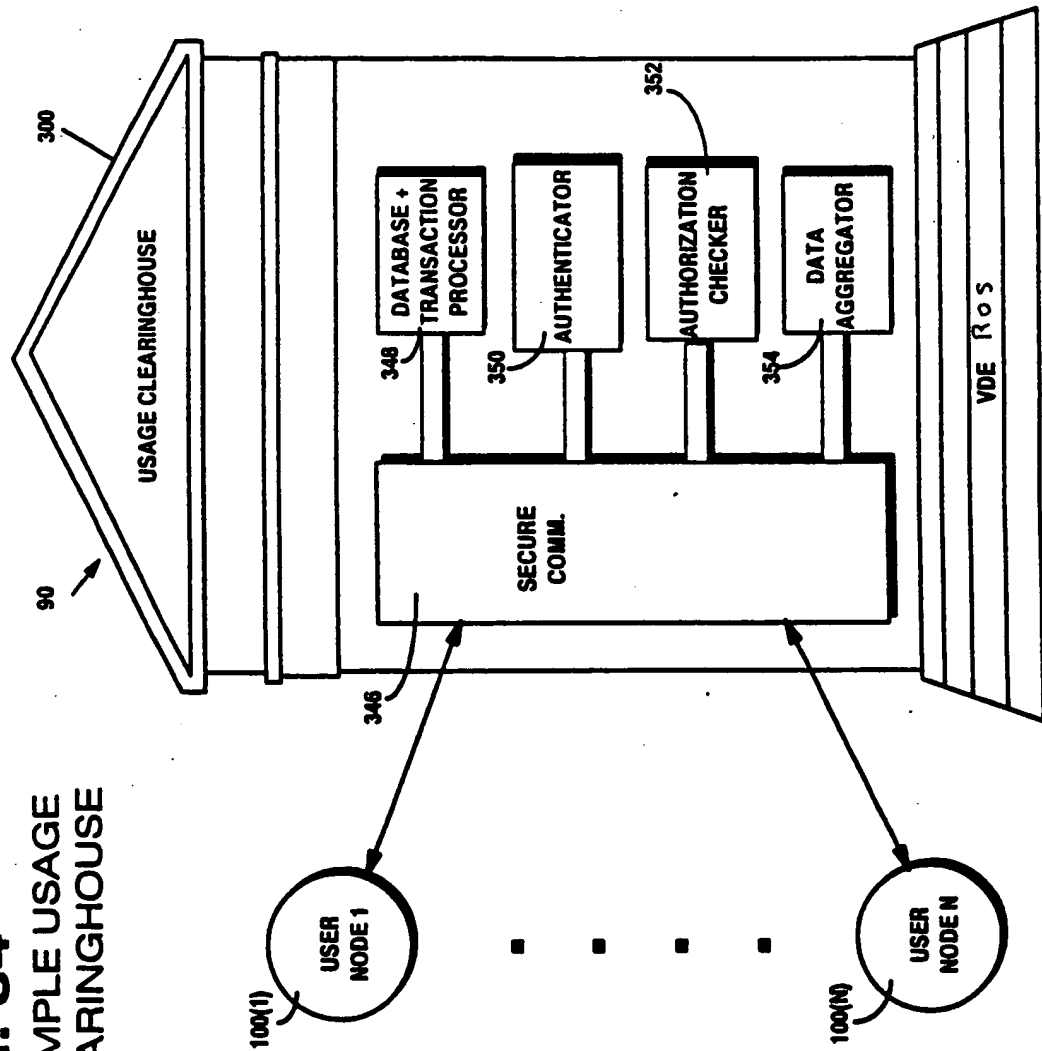


FIG. 35 Example Usage Clearing Process

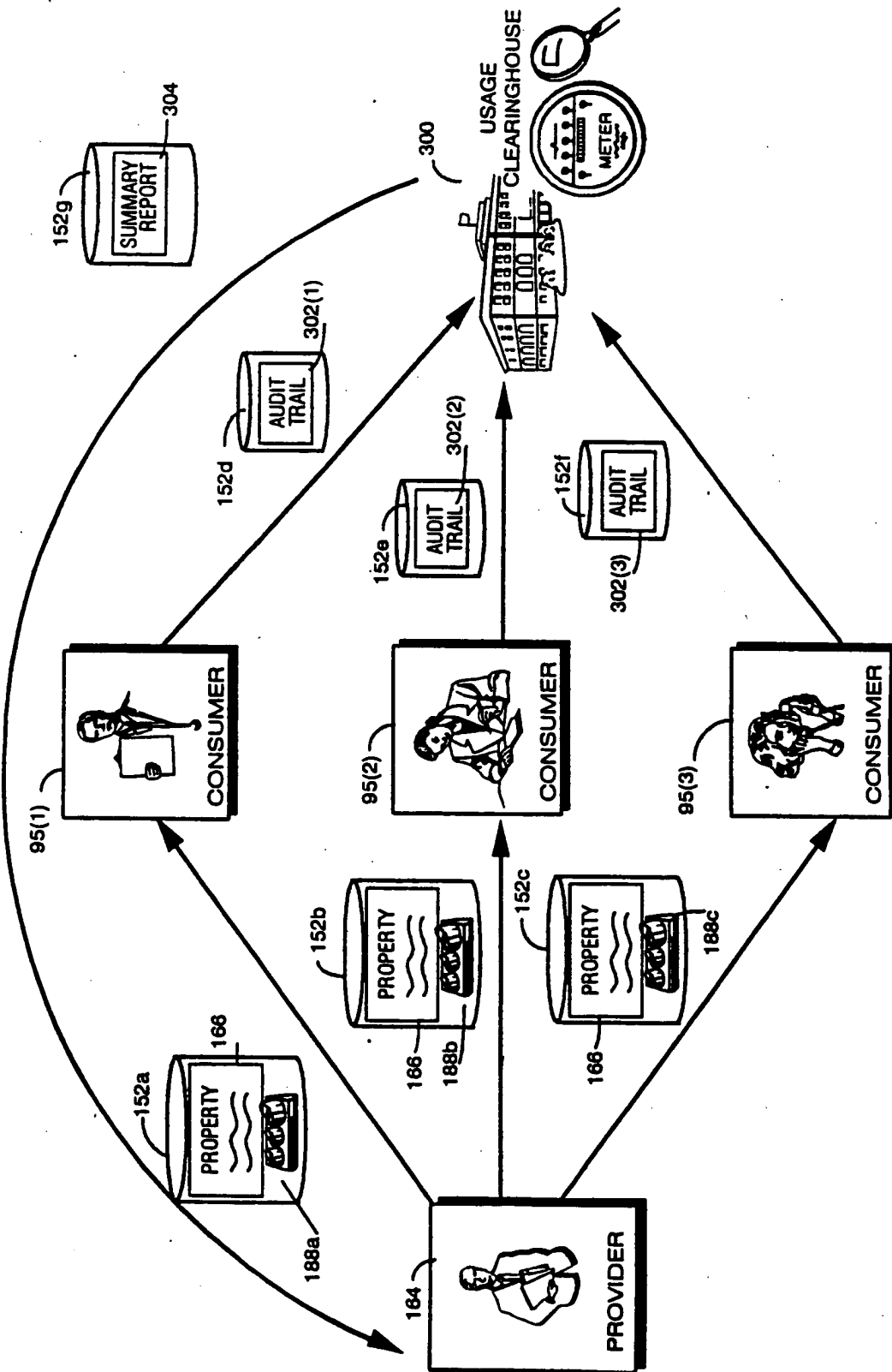


FIG. 36 Example Usage Clearing Process

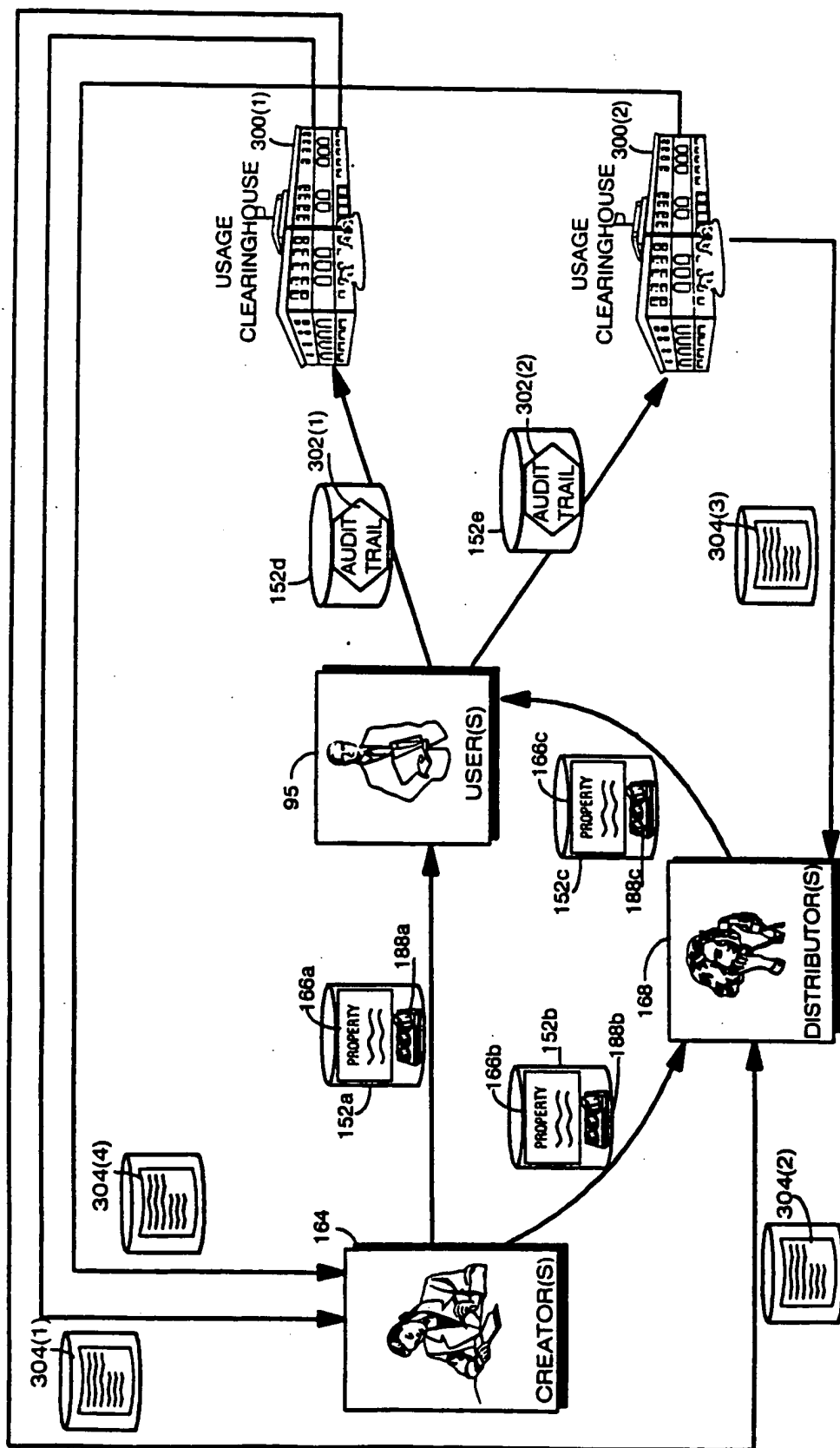


FIG. 37 Example Financial & Usage Clearinghouse Process

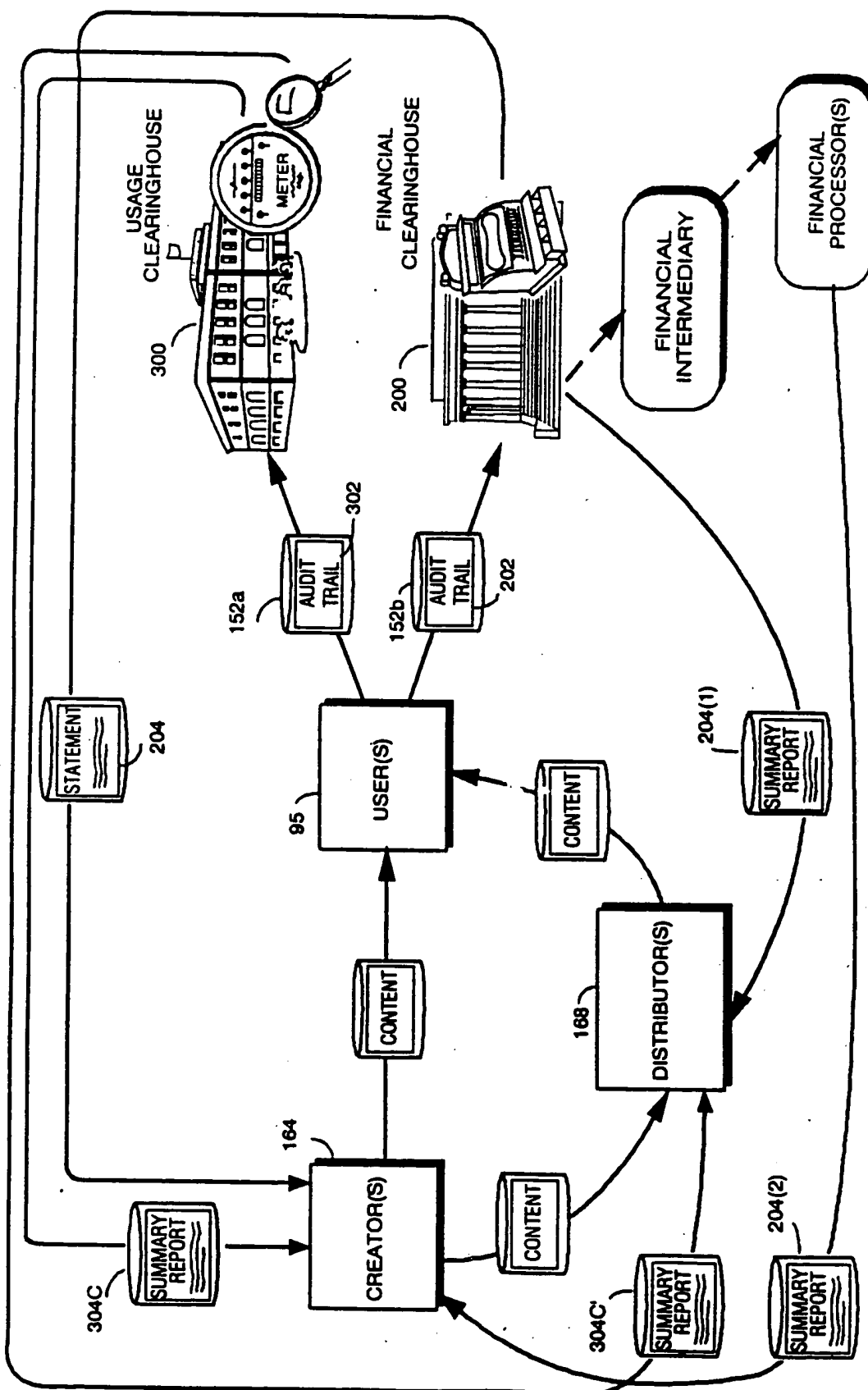


FIG. 38 EXAMPLE USAGE CLEARINGHOUSE MEDIA PLACEMENT

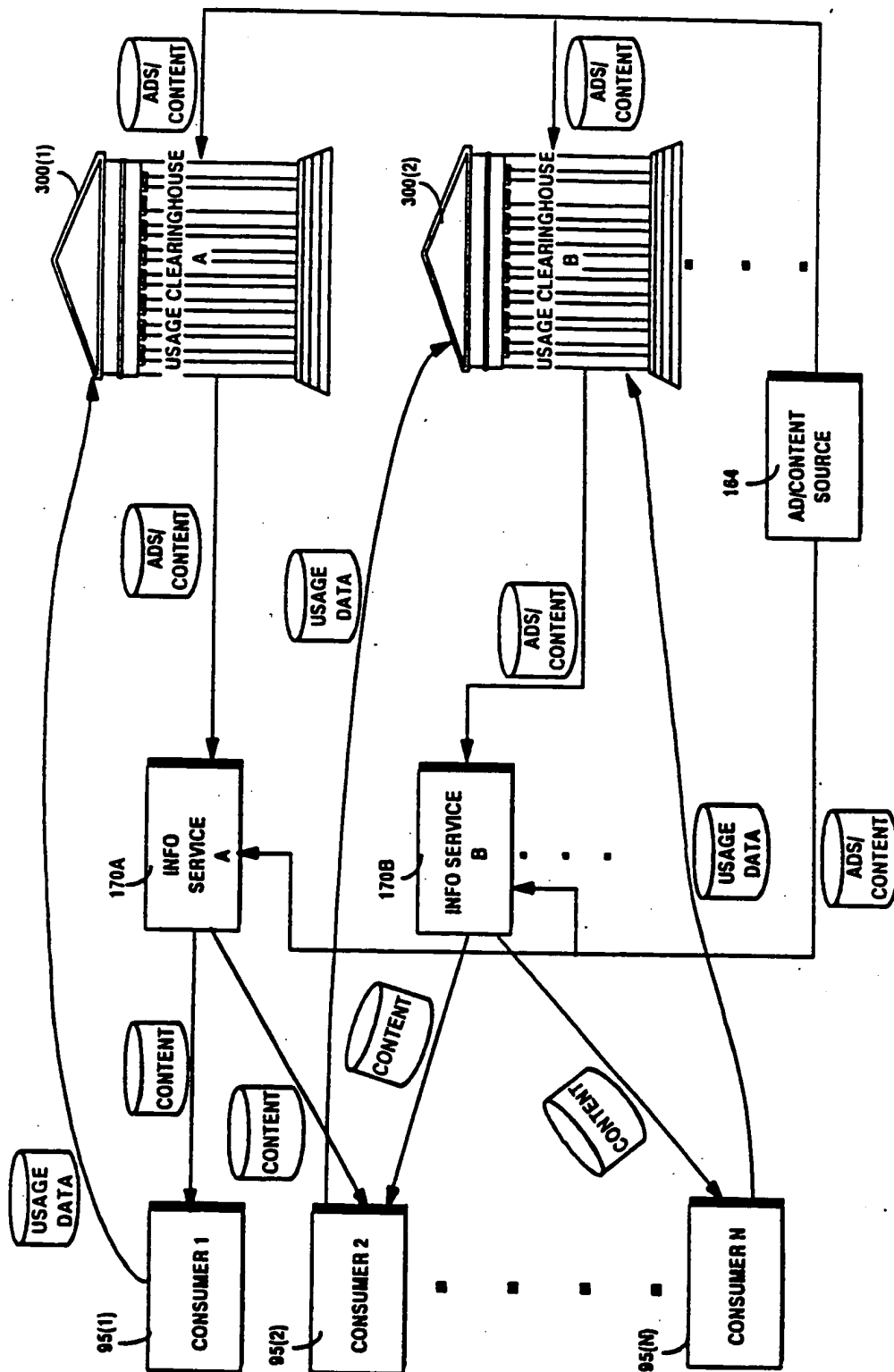


FIG. 39
EXAMPLE USAGE CLEARINGHOUSE
DISCOUNTS BASED ON DISCLOSURE

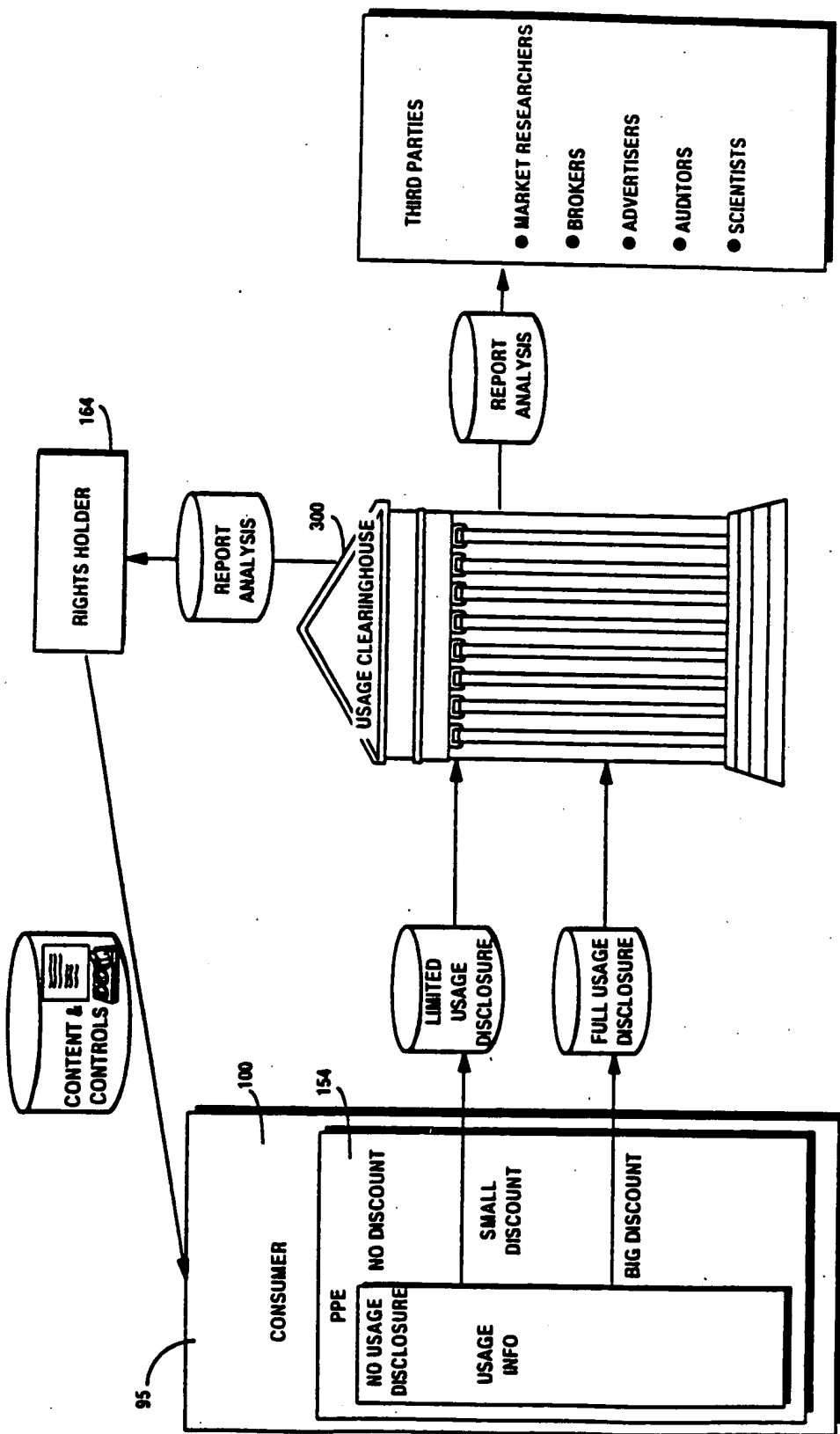
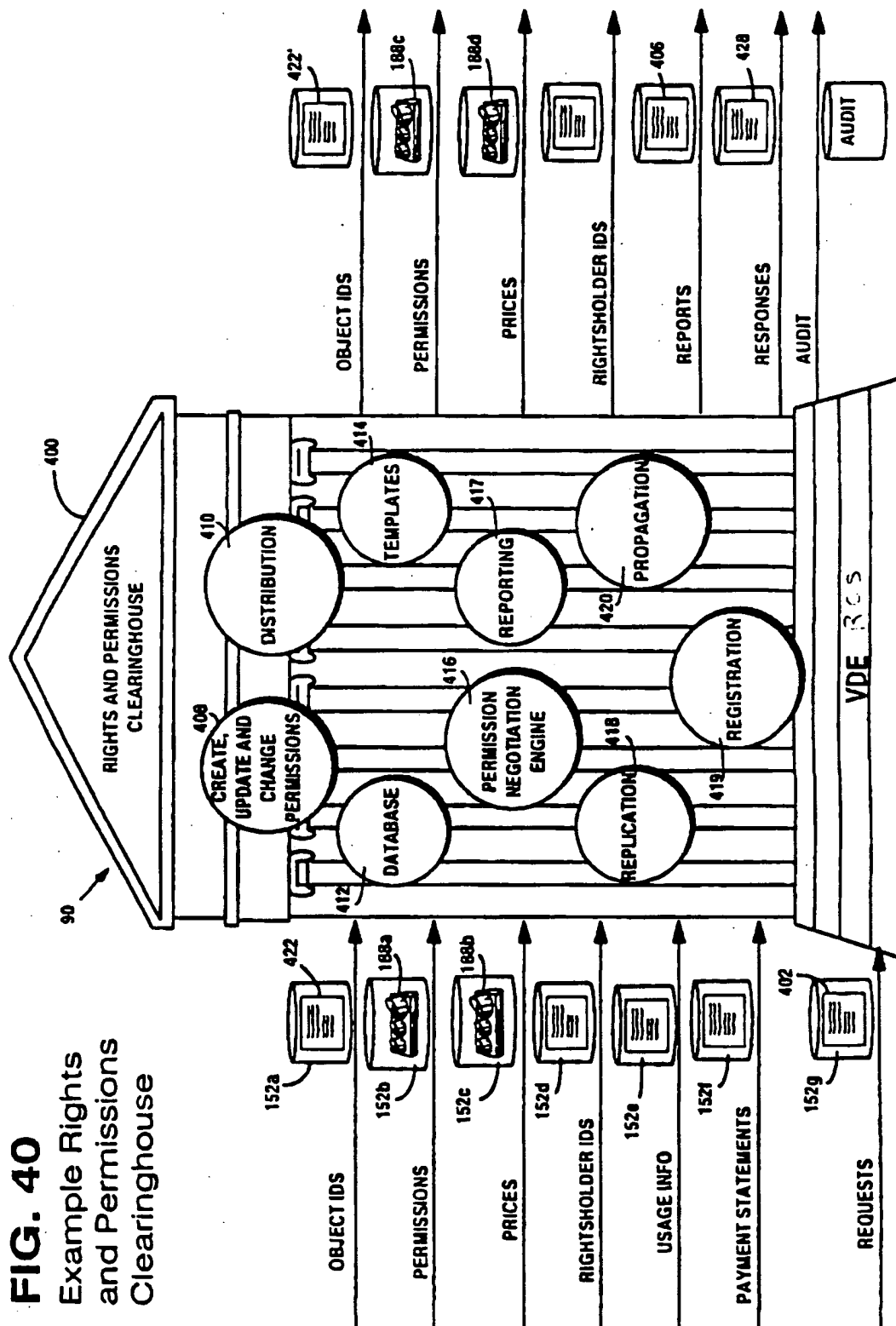


FIG. 40
Example Rights
and Permissions
Clearinghouse



[illegible]

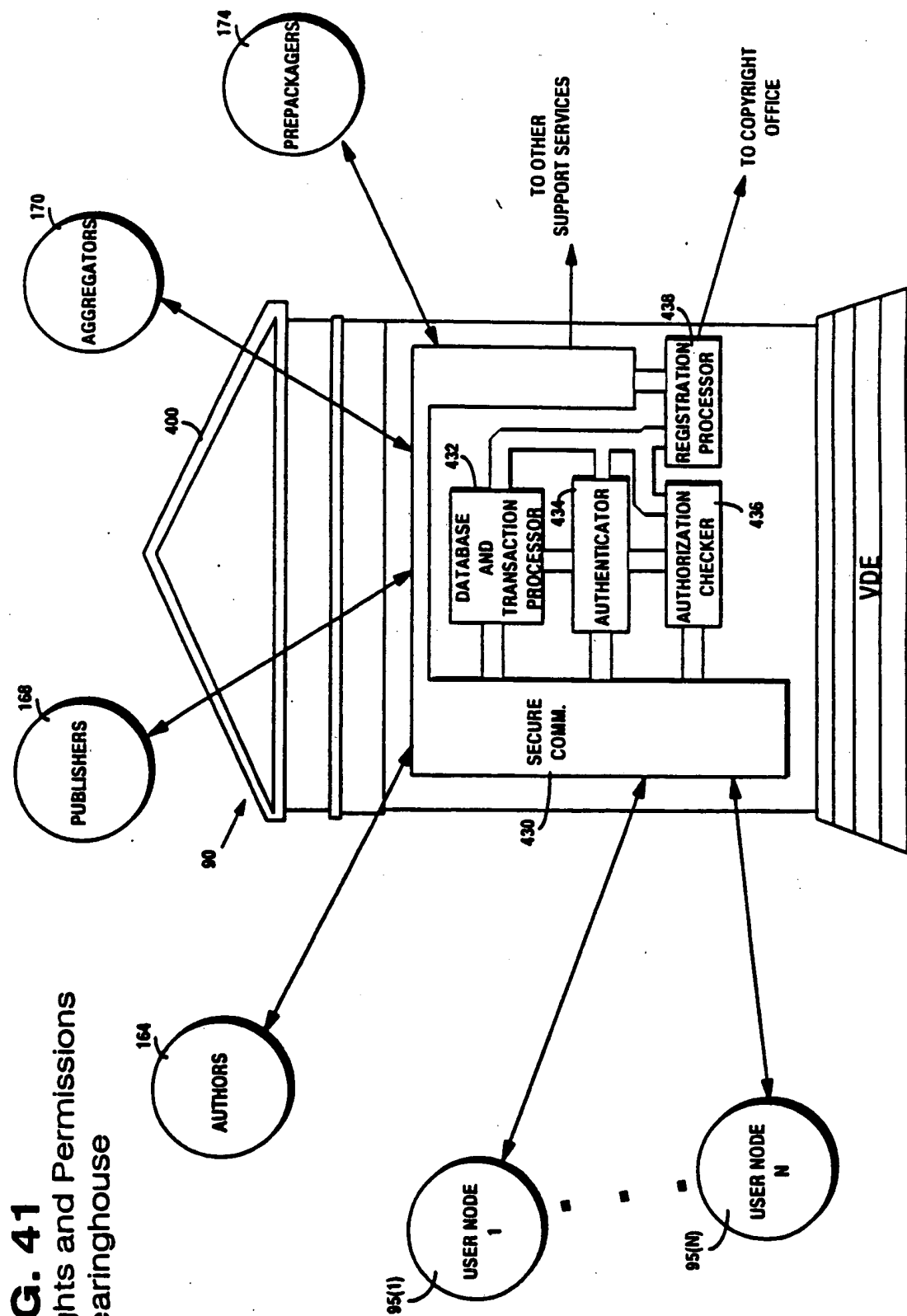
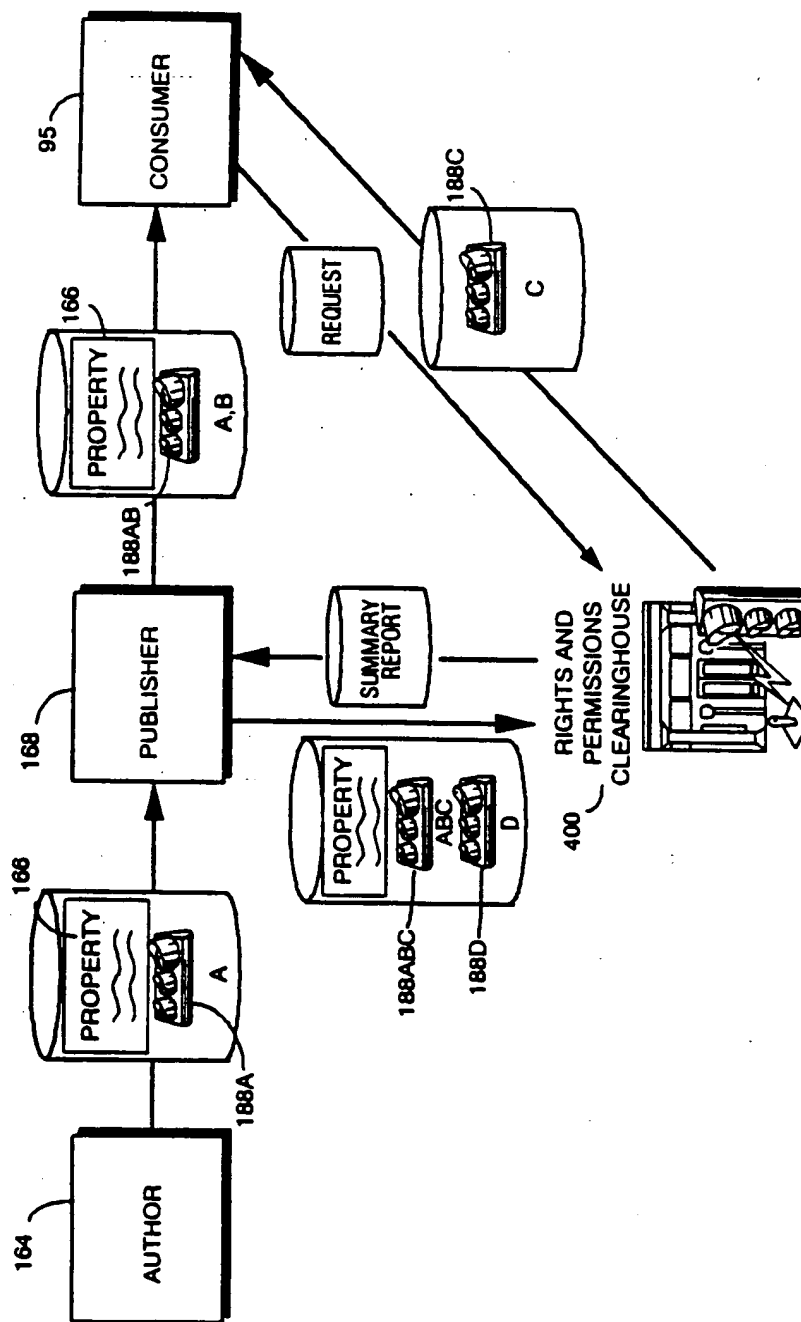


FIG. 41
Rights and Permissions
Clearinghouse

FIG. 42 Example Rights & Permissions Clearinghouse Process



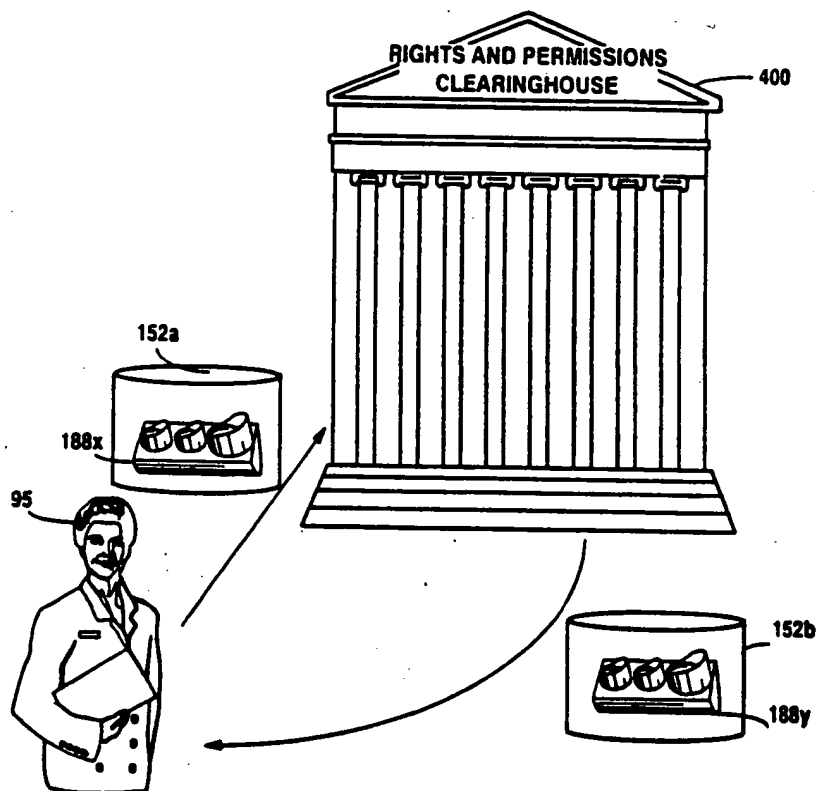
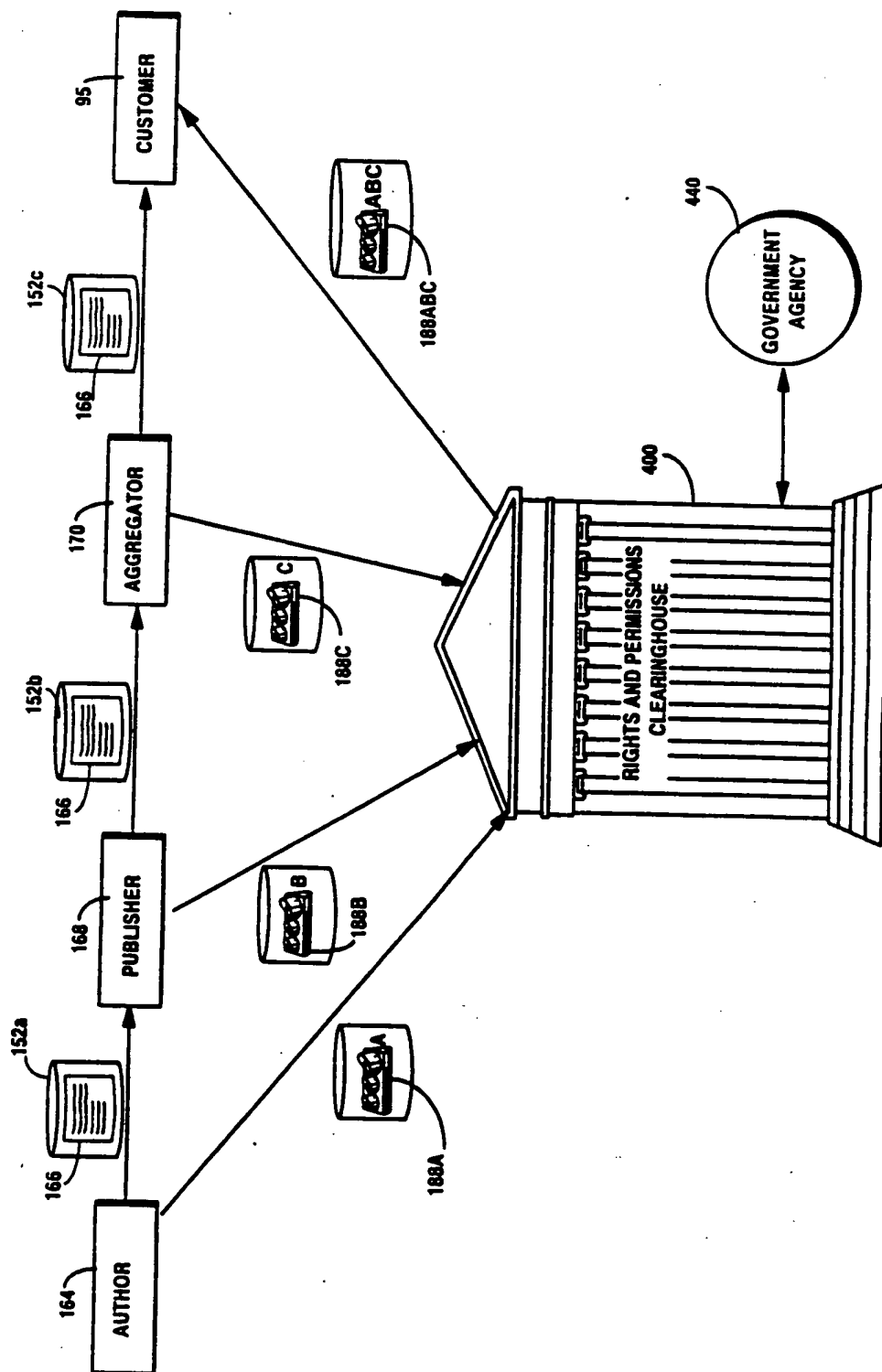


FIG. 42A
Consumer Registers Control Set
To Request Updates

FIG. 43 EXAMPLE RIGHTS AND PERMISSIONS VALUE CHAIN



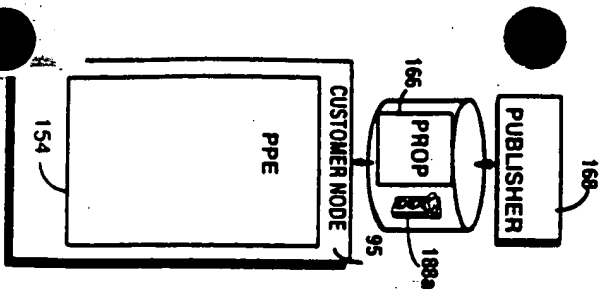


FIG. 44A
Customer
Receives
Property

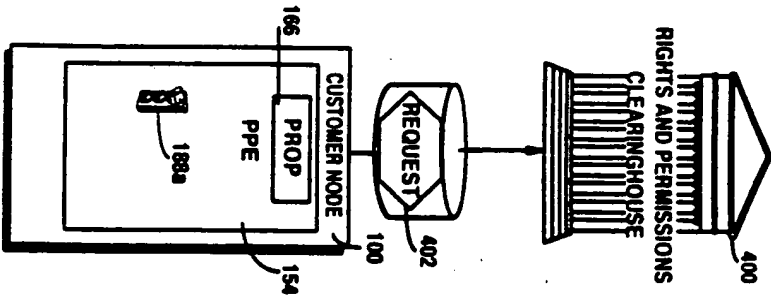


FIG. 44B
Customer
Requests Rights
To Use Property

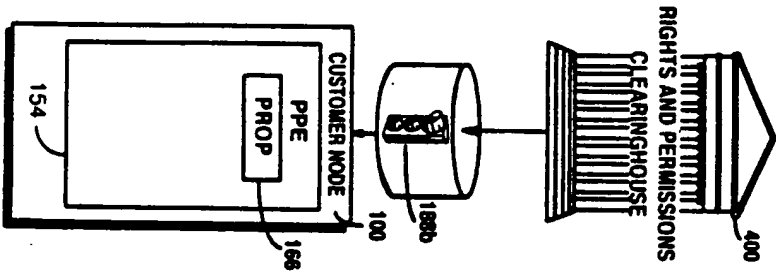


FIG. 44C
Rights and
Permissions
Clearinghouse
Provides Rights
To Customer

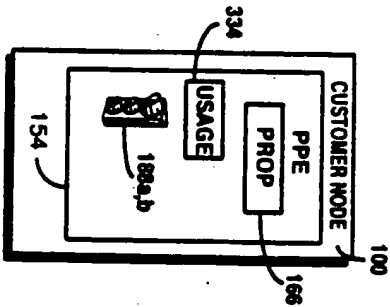


FIG. 44D
Customer
Uses Property
In Accordance
With Rights

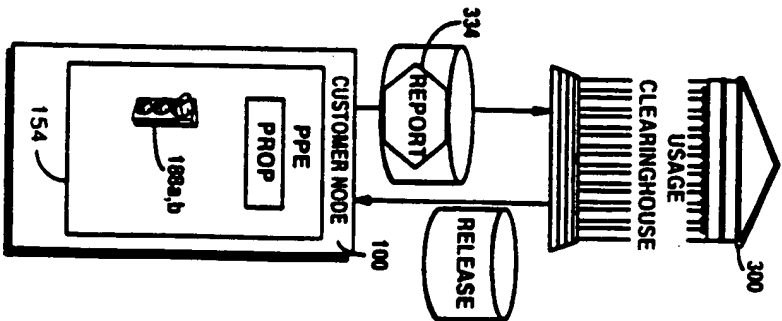


FIG. 44E
Customer
Node Reports
Aspects Of
Usage

| ACTION | PERMISSION TYPE | | | | PRICING MODELS | | | |
|---------------|-----------------|------------------|---------------|------------------|-----------------|----------------|------------|-----|
| | UNCOND. PERMIT | COND. ON PAYMENT | CONTENT BASED | UNCOND. PROHIBIT | | | | |
| VIEW TITLE | ✓ | | | | | | | |
| VIEW ABSTRACT | ✓ | | | | | | | |
| MODIFY TITLE | | | | ✓ | | | | |
| REDIS-TRIBUTE | | | ✓ | | | | | |
| BACK UP | | ✓ | | | ONE TIME PURCH. | PAY PER ACTION | DECL. COST | ... |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| VIEW CONTENT | | ✓ | | | ONE TIME PURCH. | PAY PER VIEW | DECL. COST | ... |
| PRINT CONTENT | | ✓ | | | ONE TIME PURCH. | PAY PER PRINT | DECL. COST | ... |

FIG. 45A EXAMPLE RIGHTS TEMPLATE

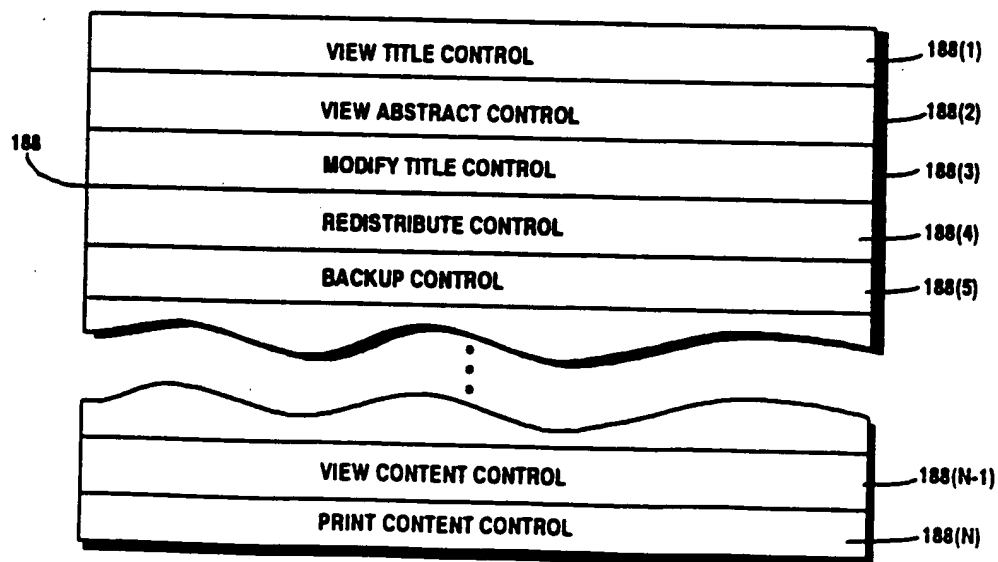


FIG. 45C EXAMPLE CONTROL SET

| | | | |
|------------------|----------------------|---|----------|
| | | | |
| VIEW CONTENT | ONE TIME PURCHASE | ✓ | \$ _____ |
| | PAY PER VIEW | ✓ | \$ _____ |
| | DECLINING COST | | \$ _____ |
| PRINT CONTENT | ONE TIME PURCHASE | | \$ _____ |
| | | | |
| | | | |

FIG. 45B PRICING MODELS AND LEVELS

FIG. 46 Example Rights And Permissions Clearing Process

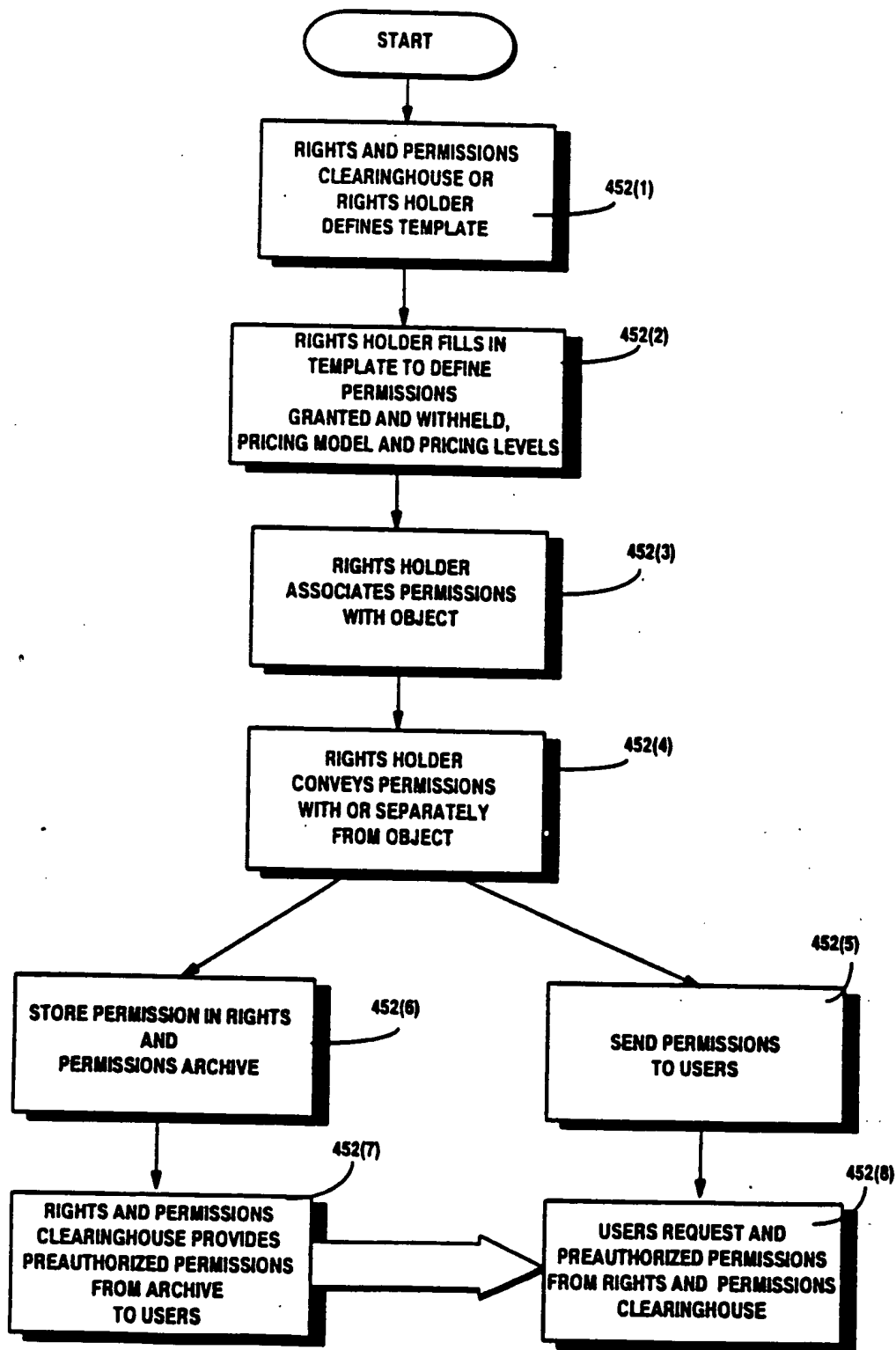


FIG. 47
Example Certifying
Authority

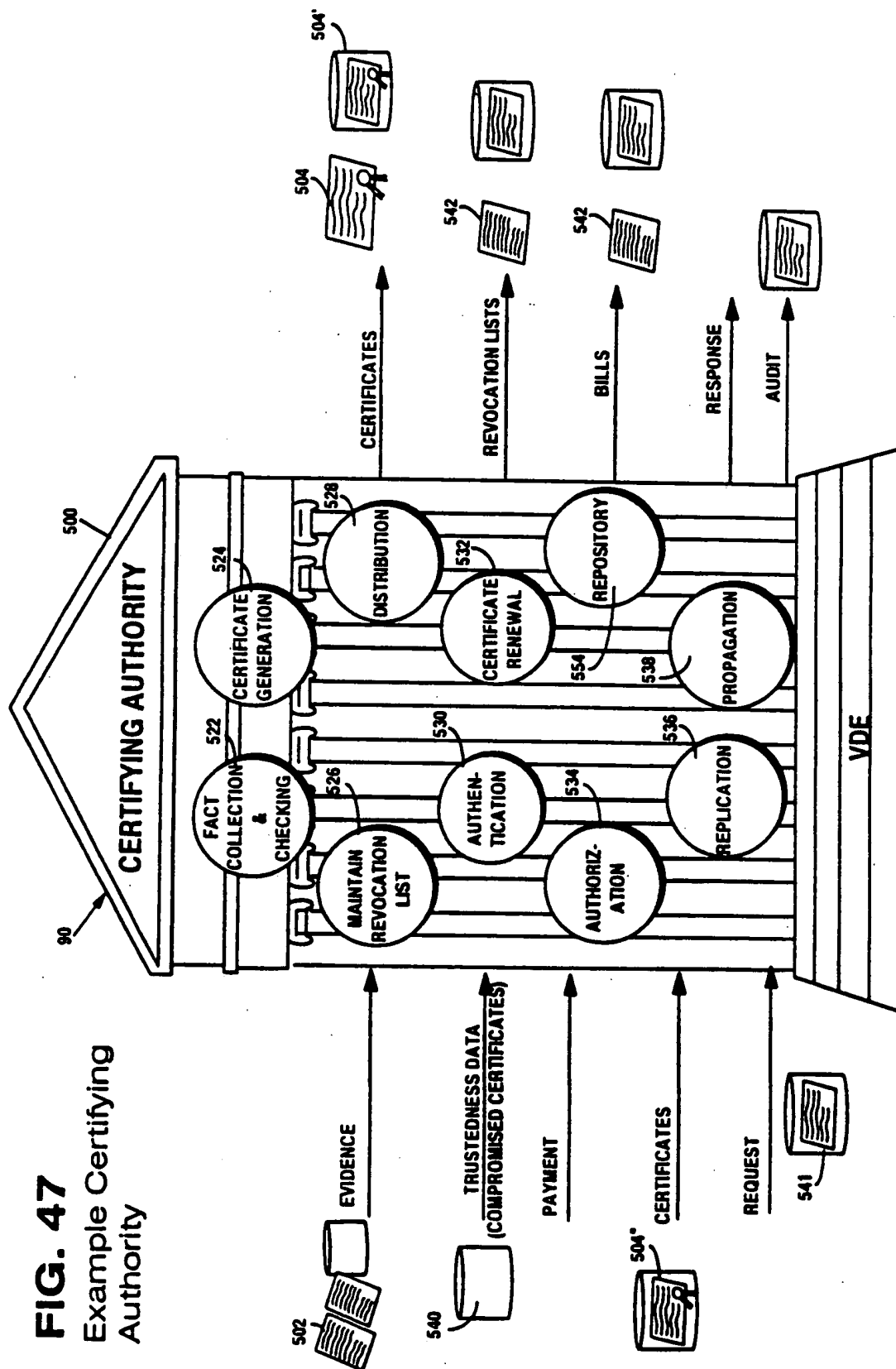


FIG. 48
Example Certifying
Authority

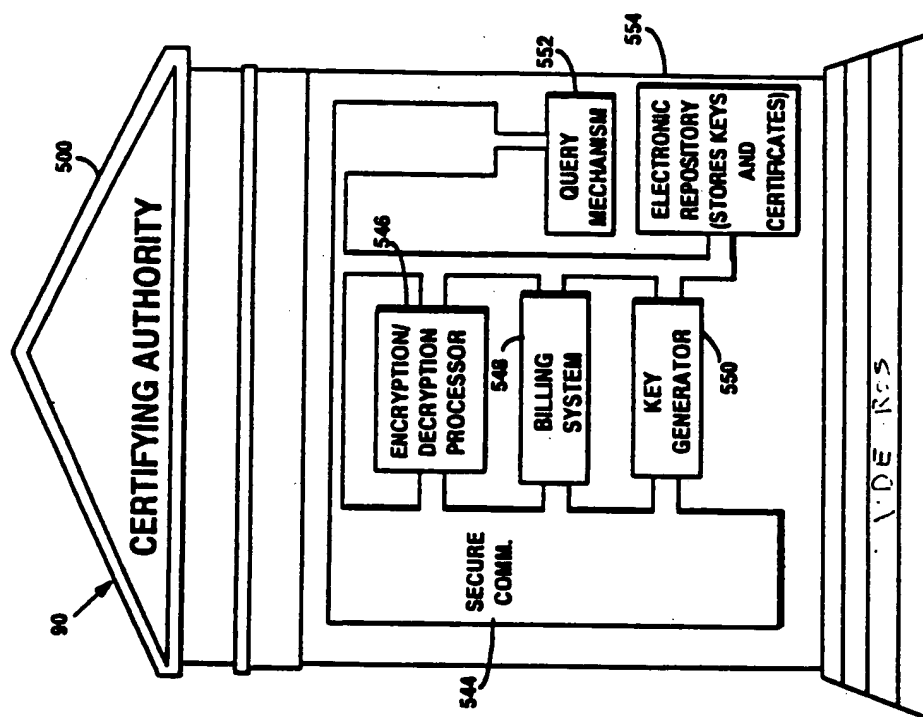


FIG. 49 Example Certifying Process

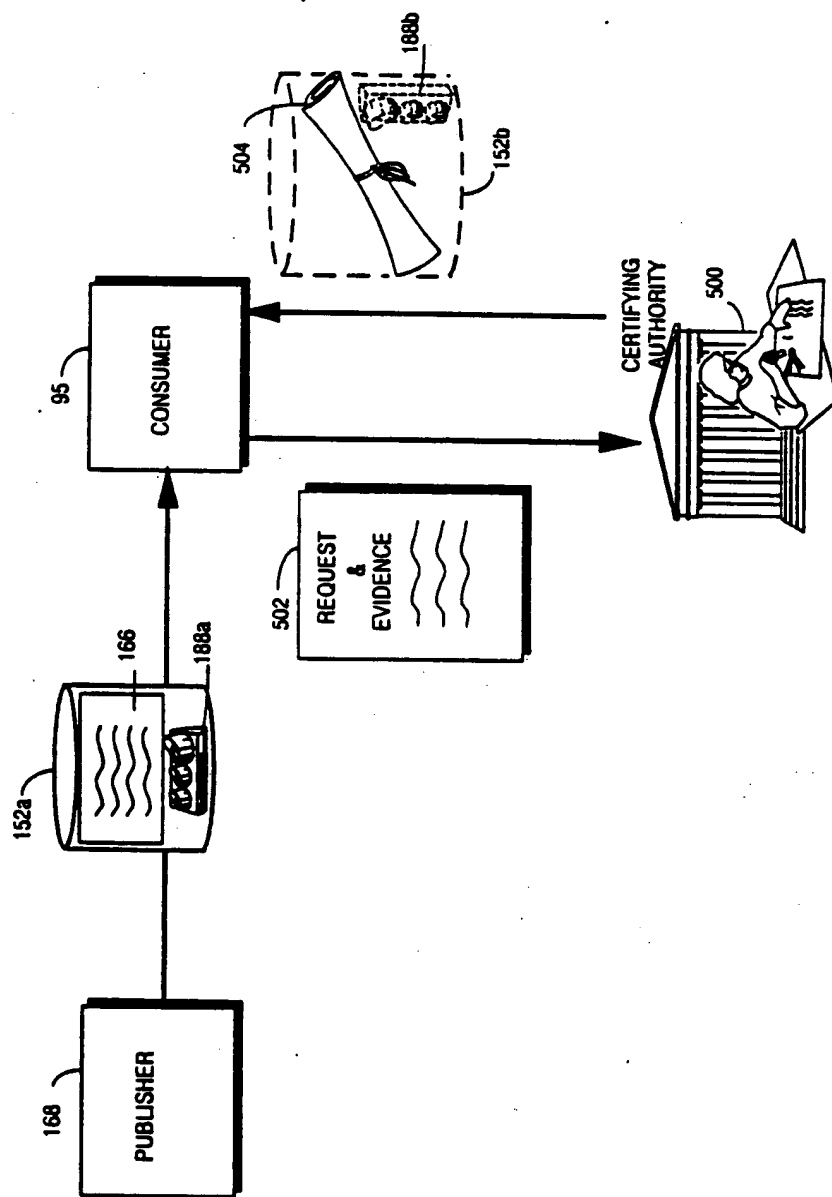


FIG. 50 Distributed Certificate Issuance

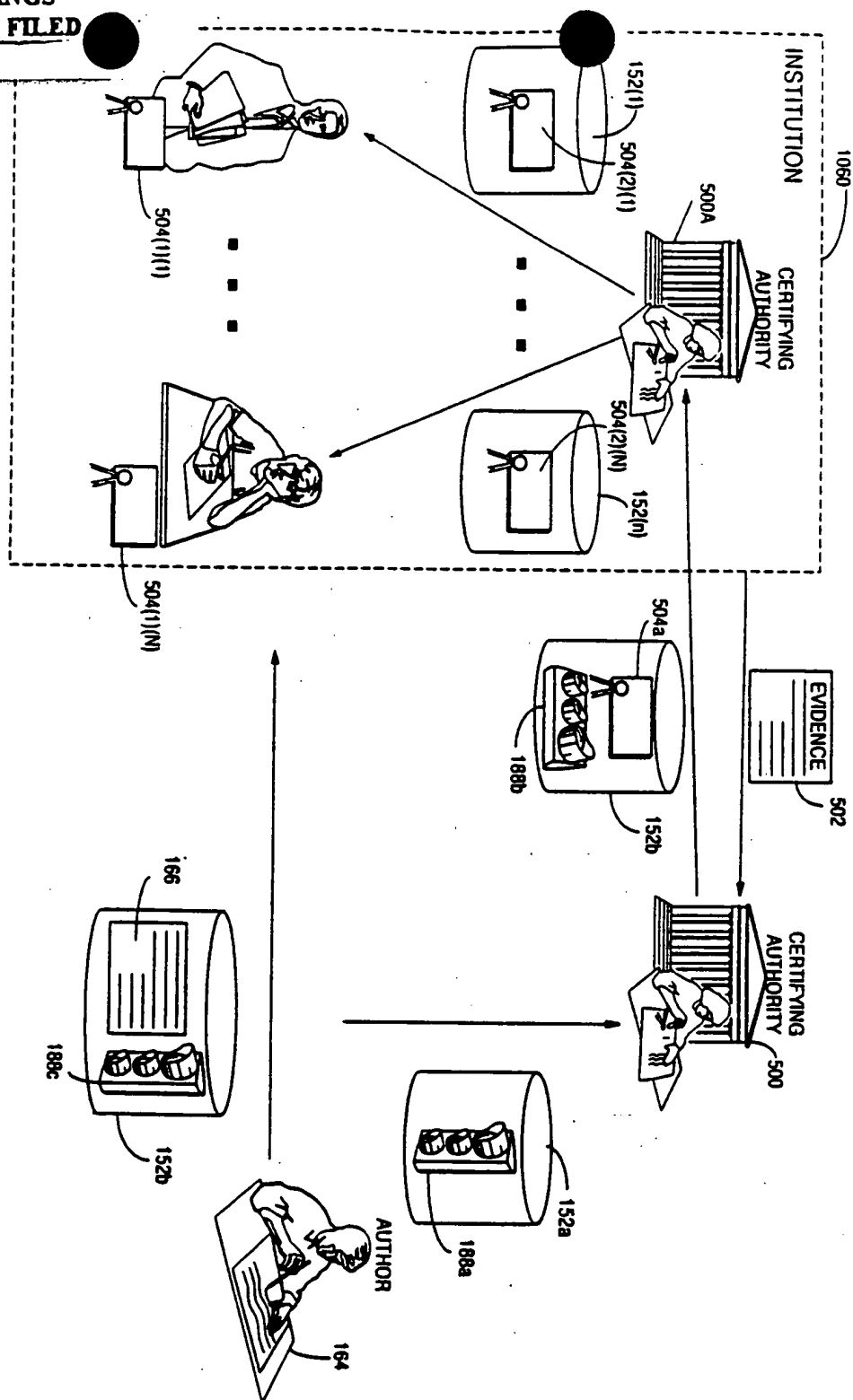
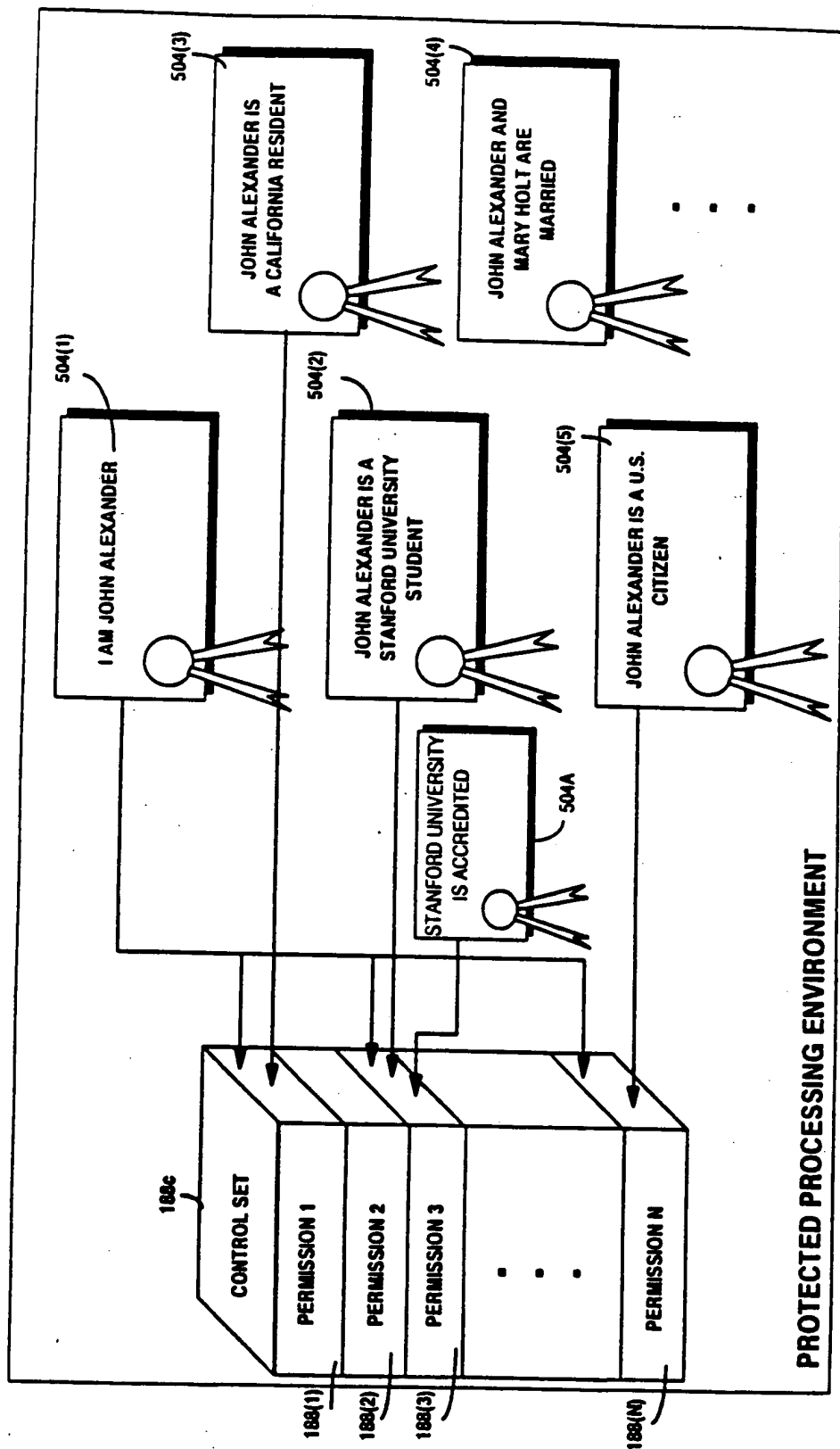
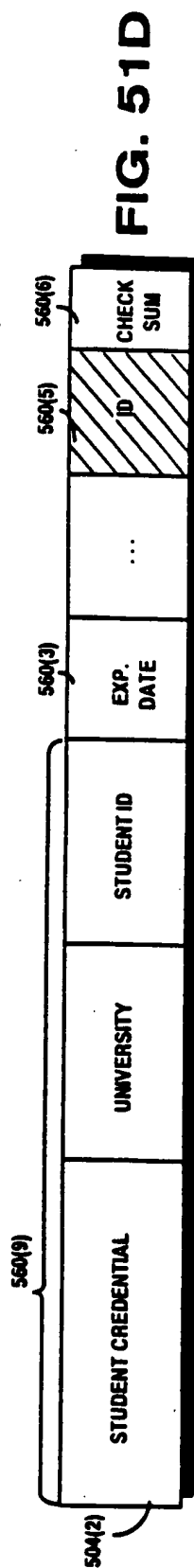
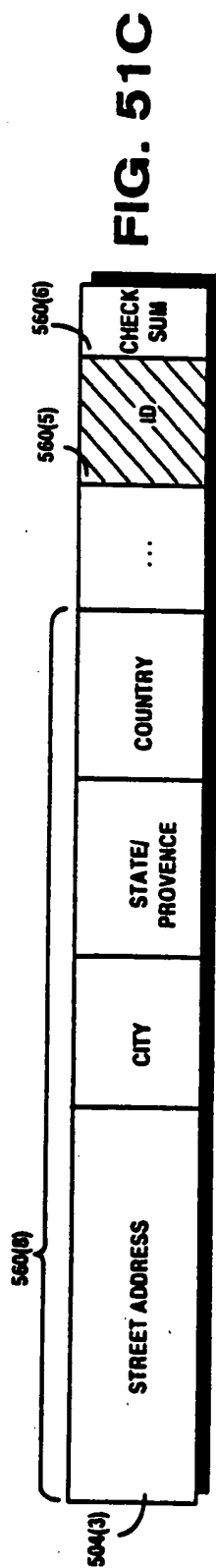
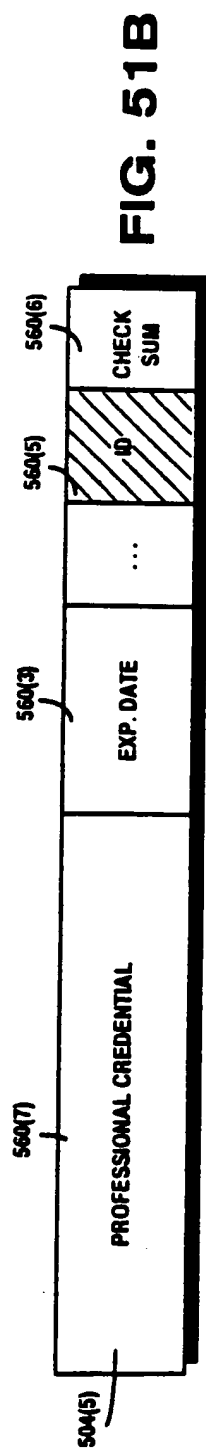
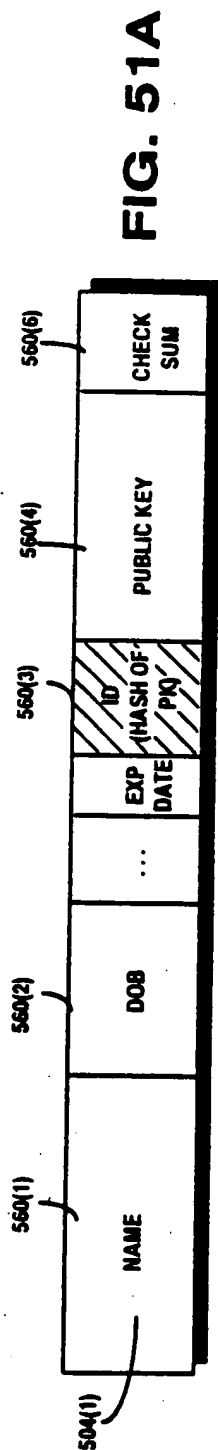


FIG. 50A Example Control Set Using Certificates





Example Digital Certificates

FIG. 51E Generating Certificates Based On Other Certificates

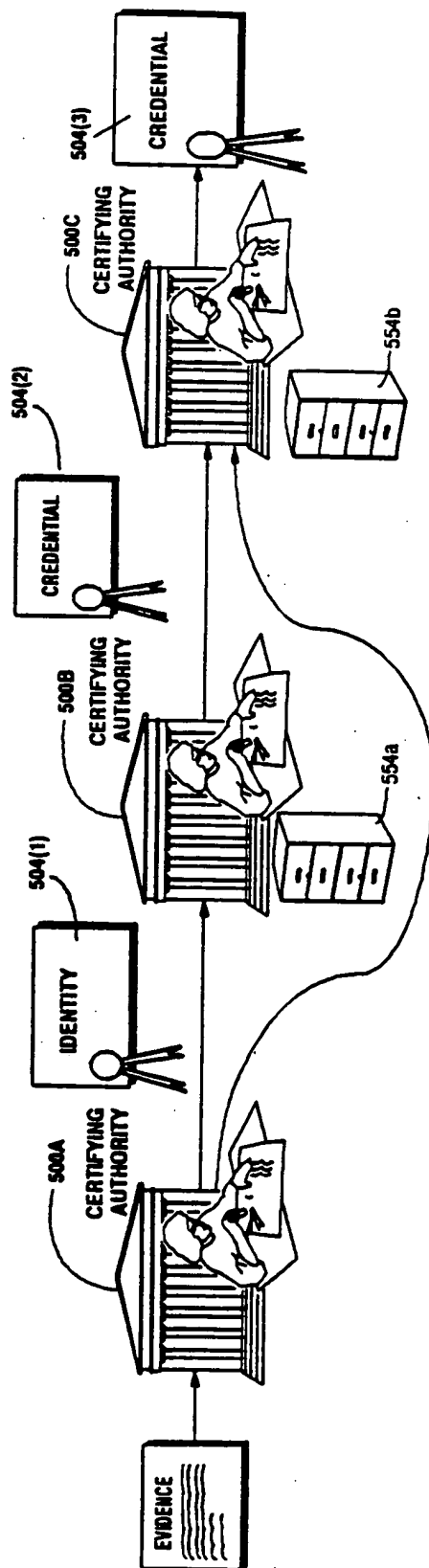


FIG. 51F

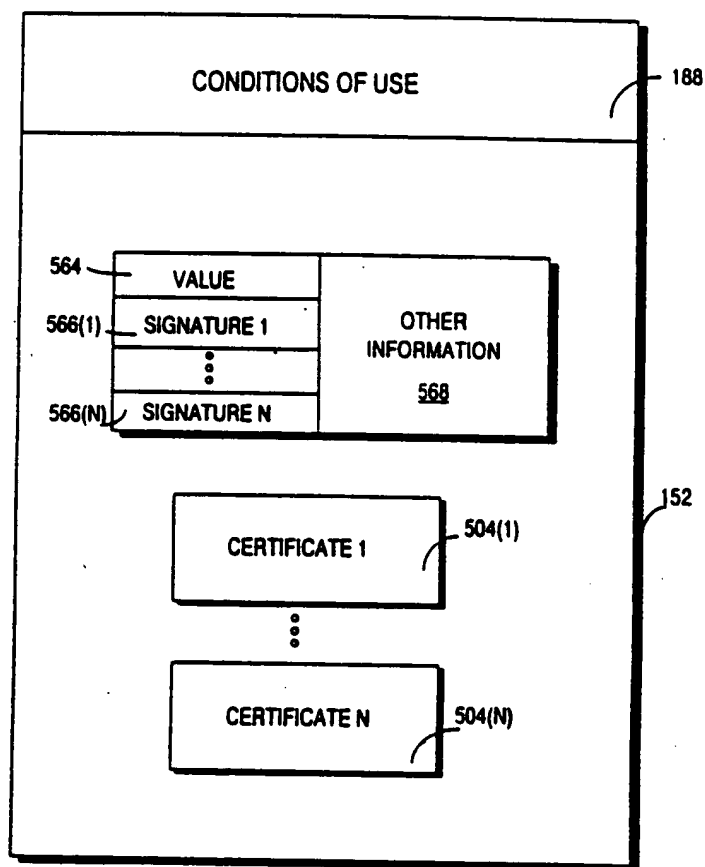


FIG. 51G

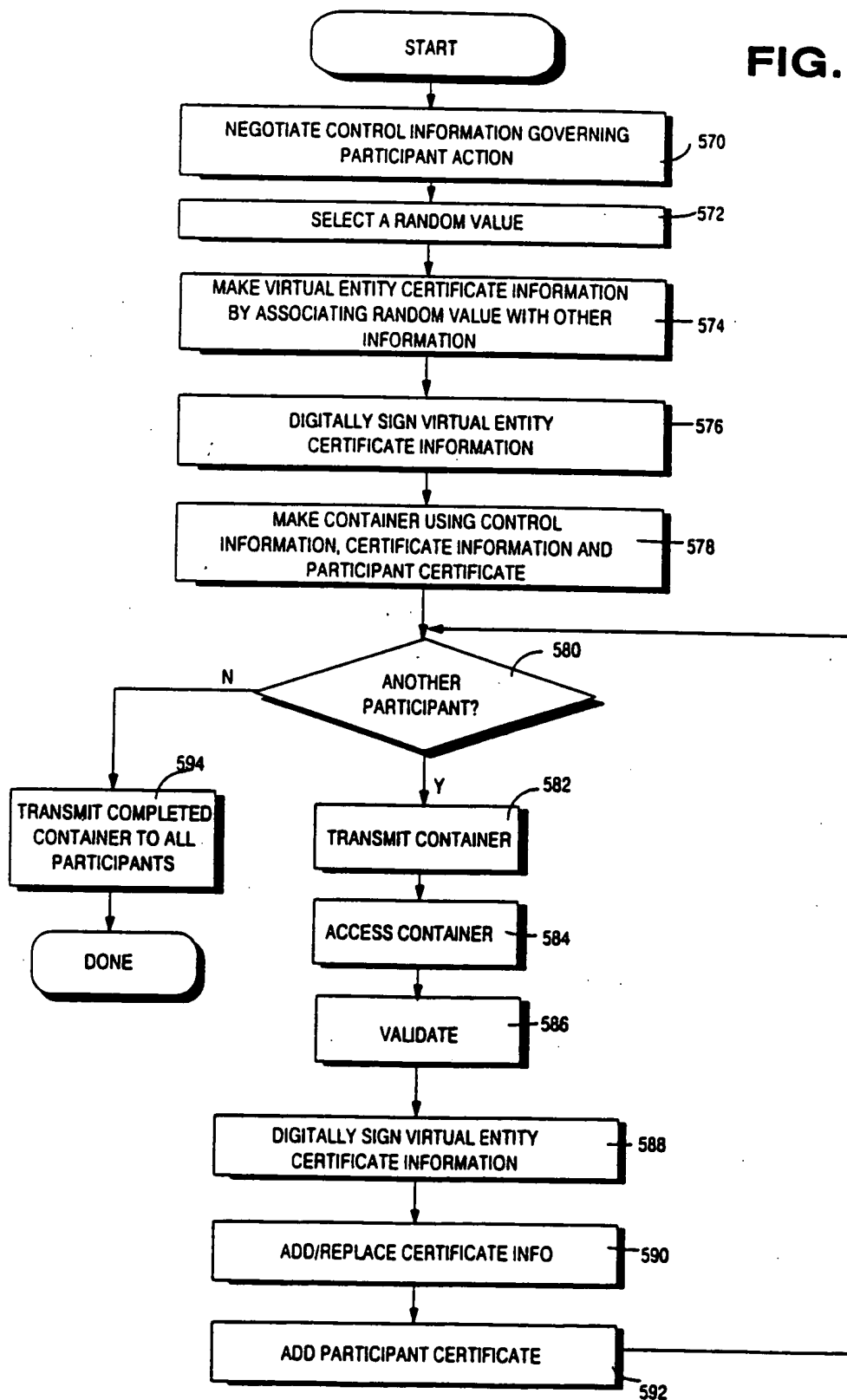
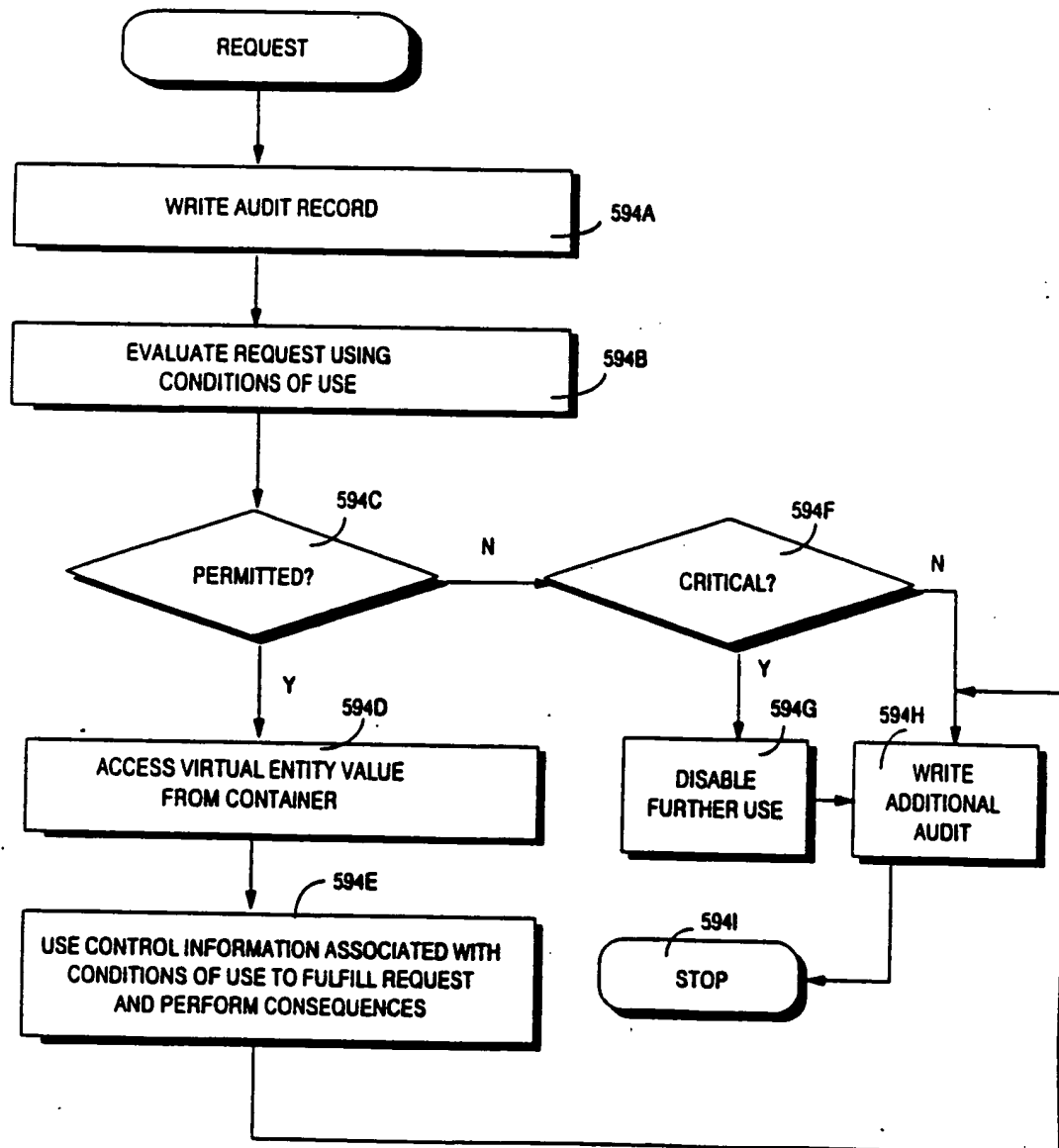
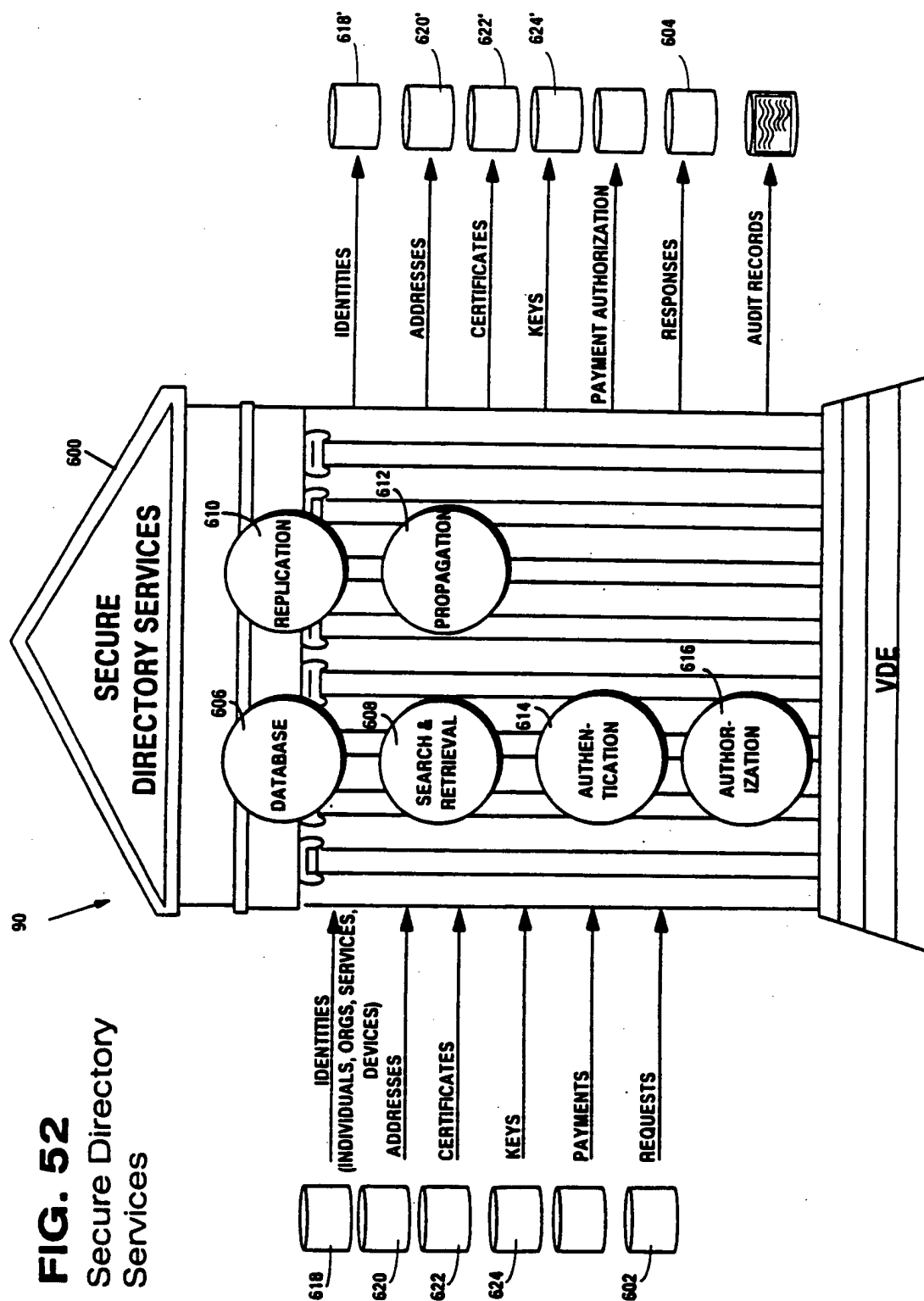


FIG. 51H





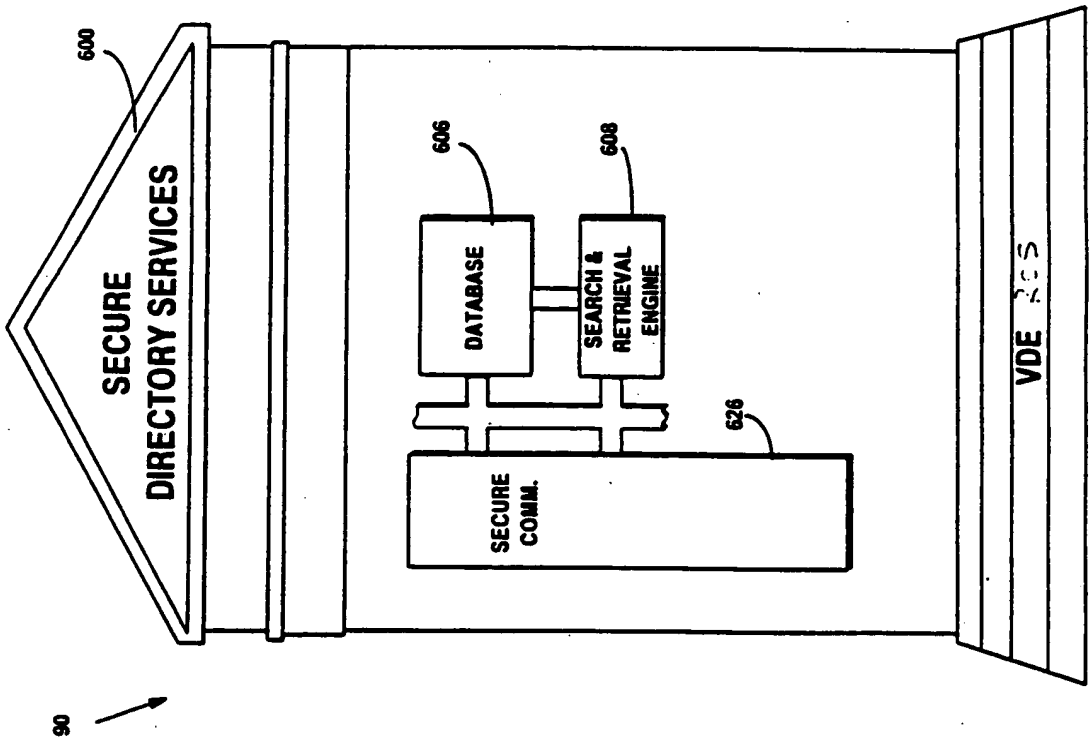
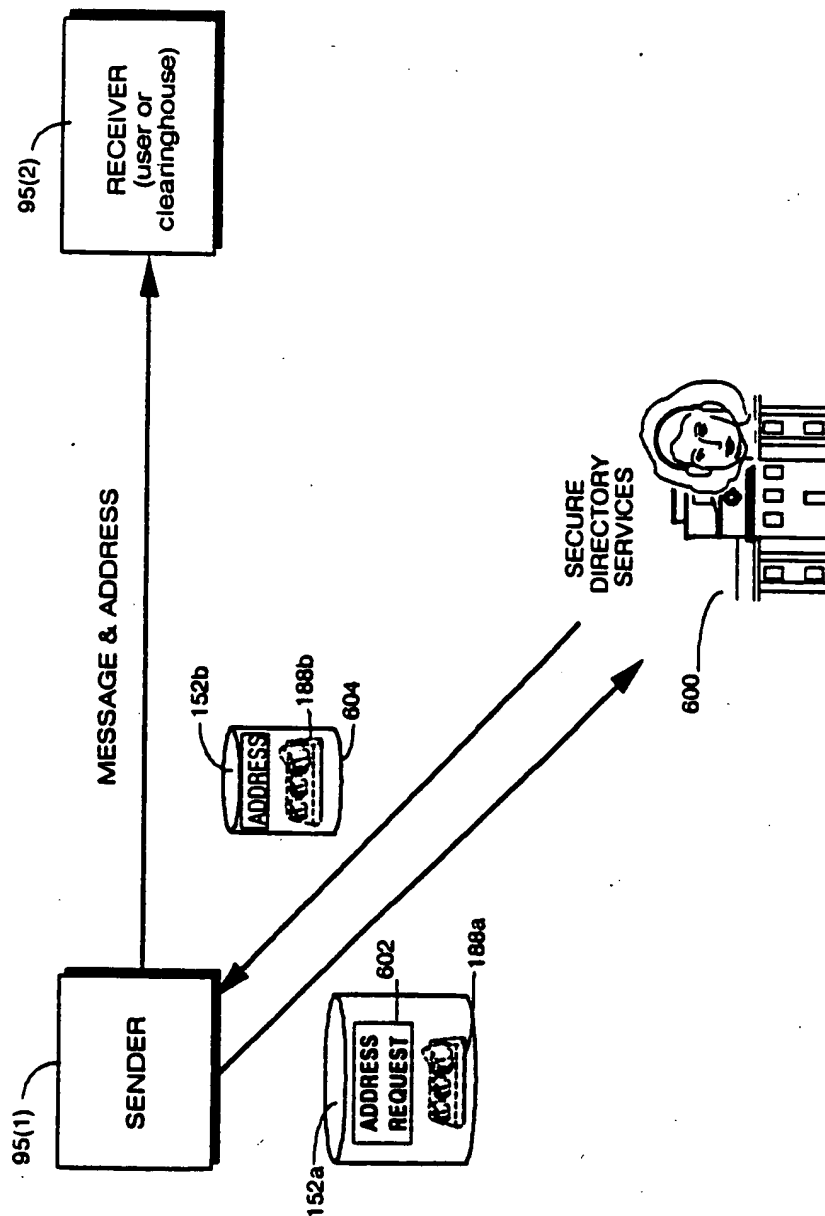
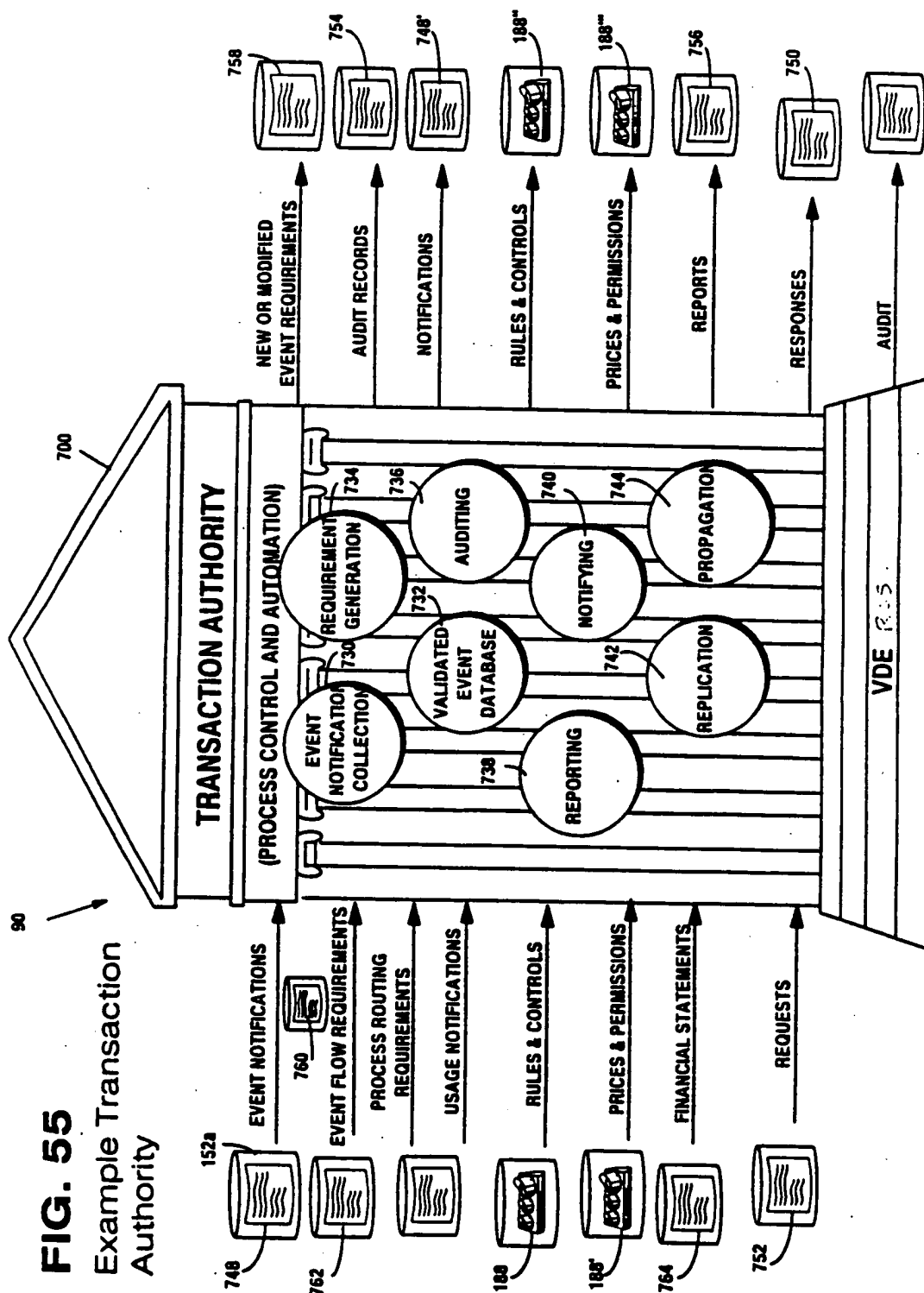


FIG. 53
Example Secure
Directory Services

FIG. 54 Example Secure Directory Service Process





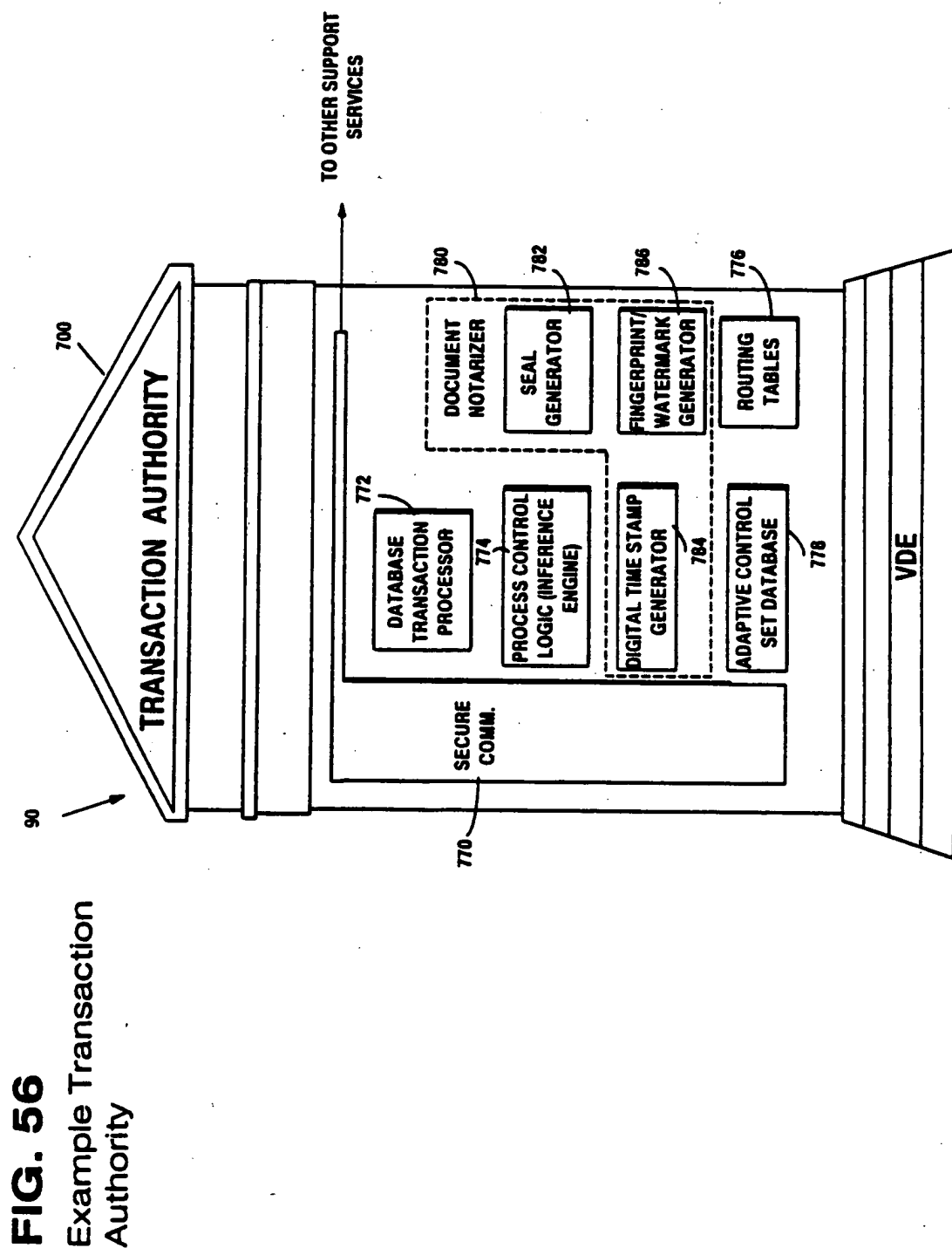




FIG. 58A
Forming a Control
Superset

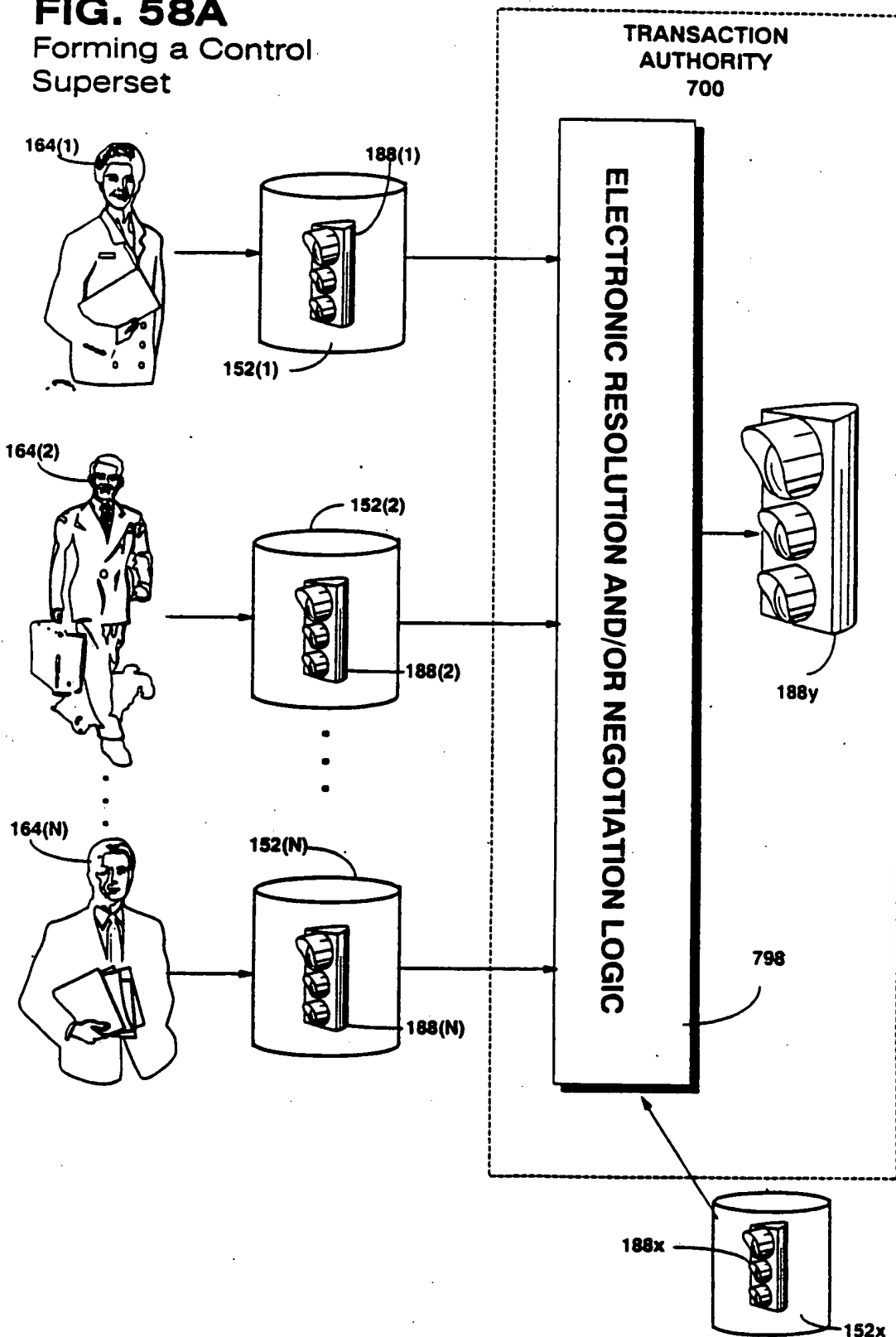
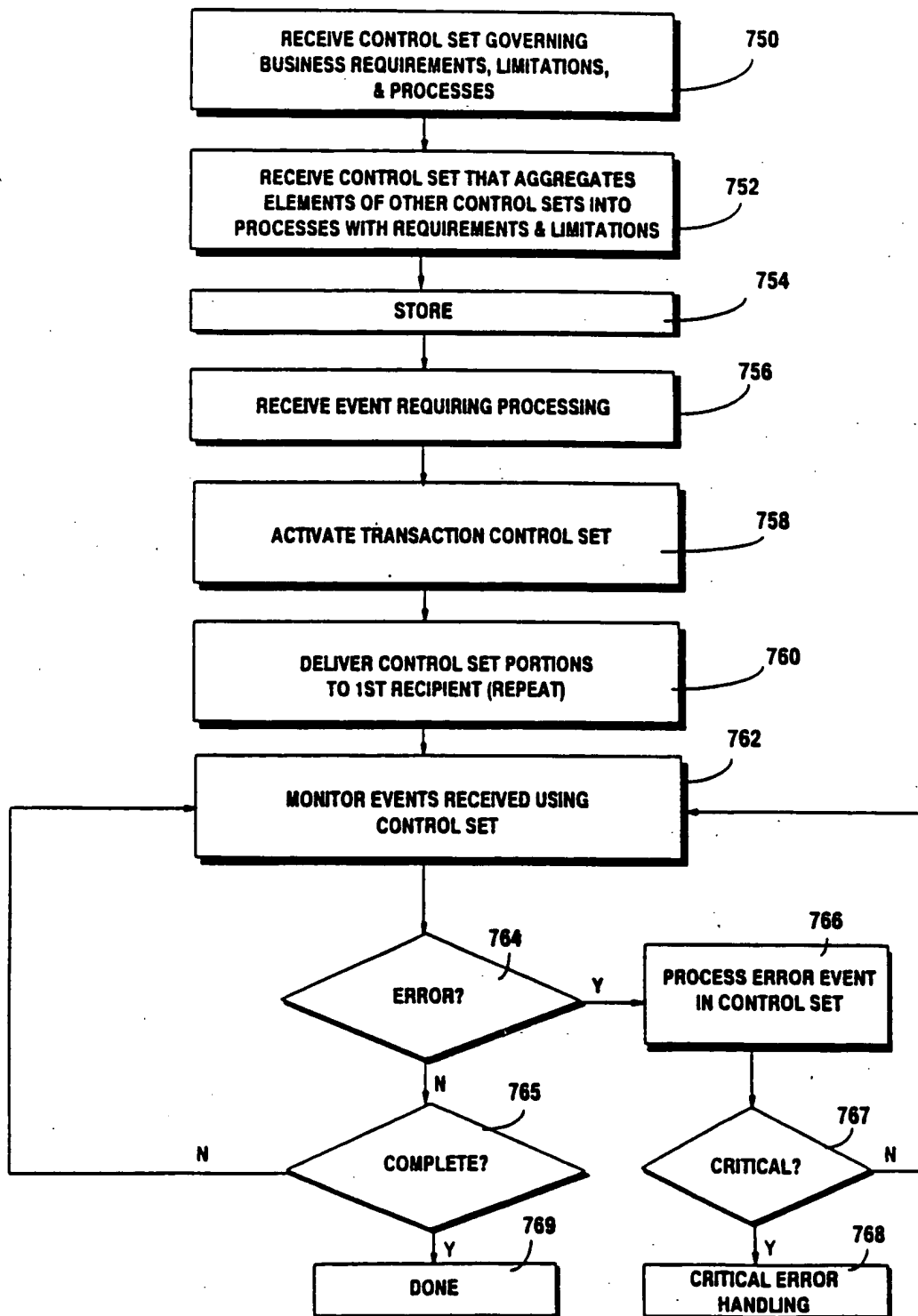


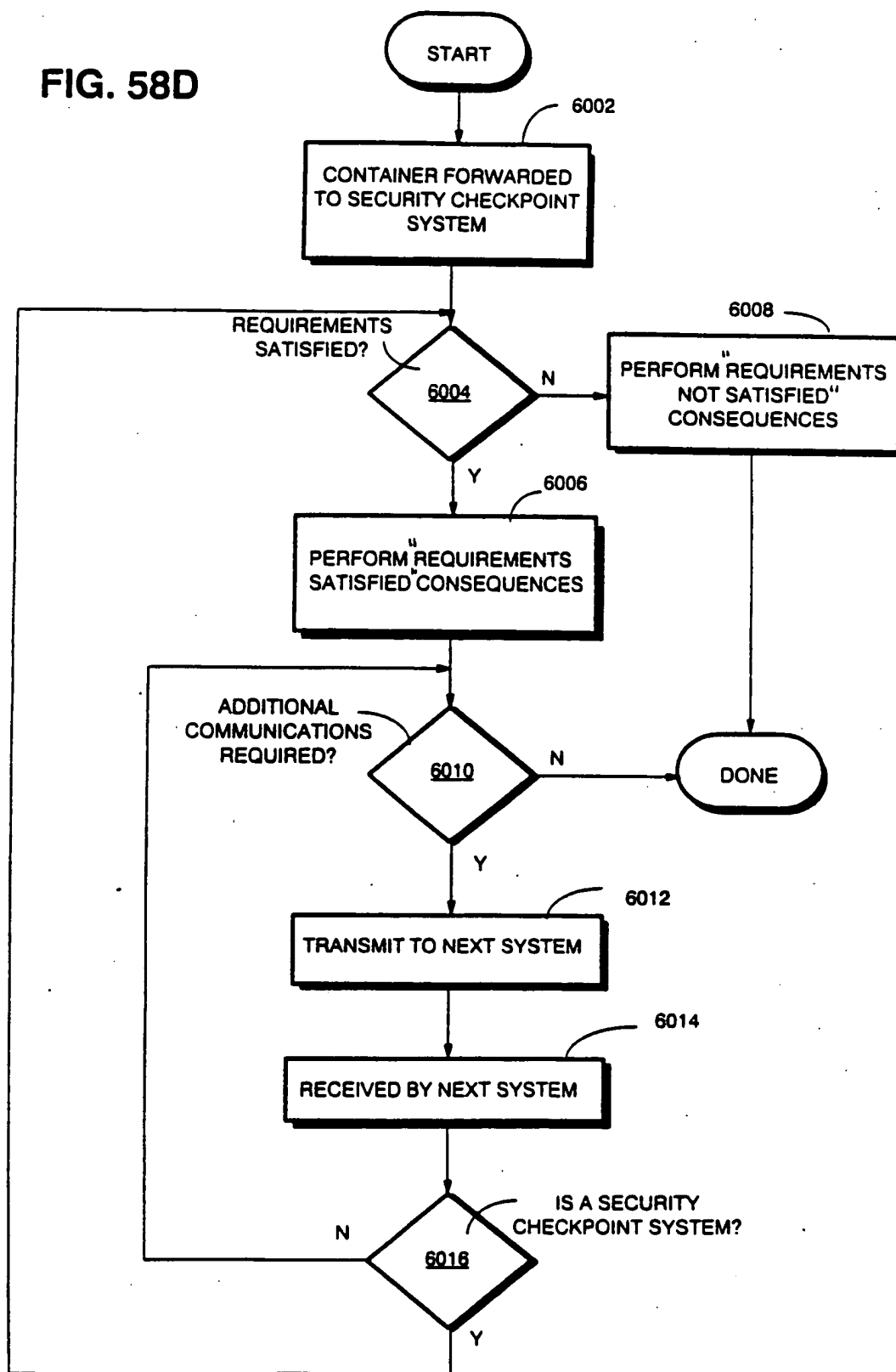
FIG. 58B Transaction Authority Example Steps





**SECURITY CHECKPOINT COMMERCE
UTILITY SYSTEM SUPPORT CERTIFIED
OR AUTHENTICATED COMMUNICATION
INFORMATION**

FIG. 58D



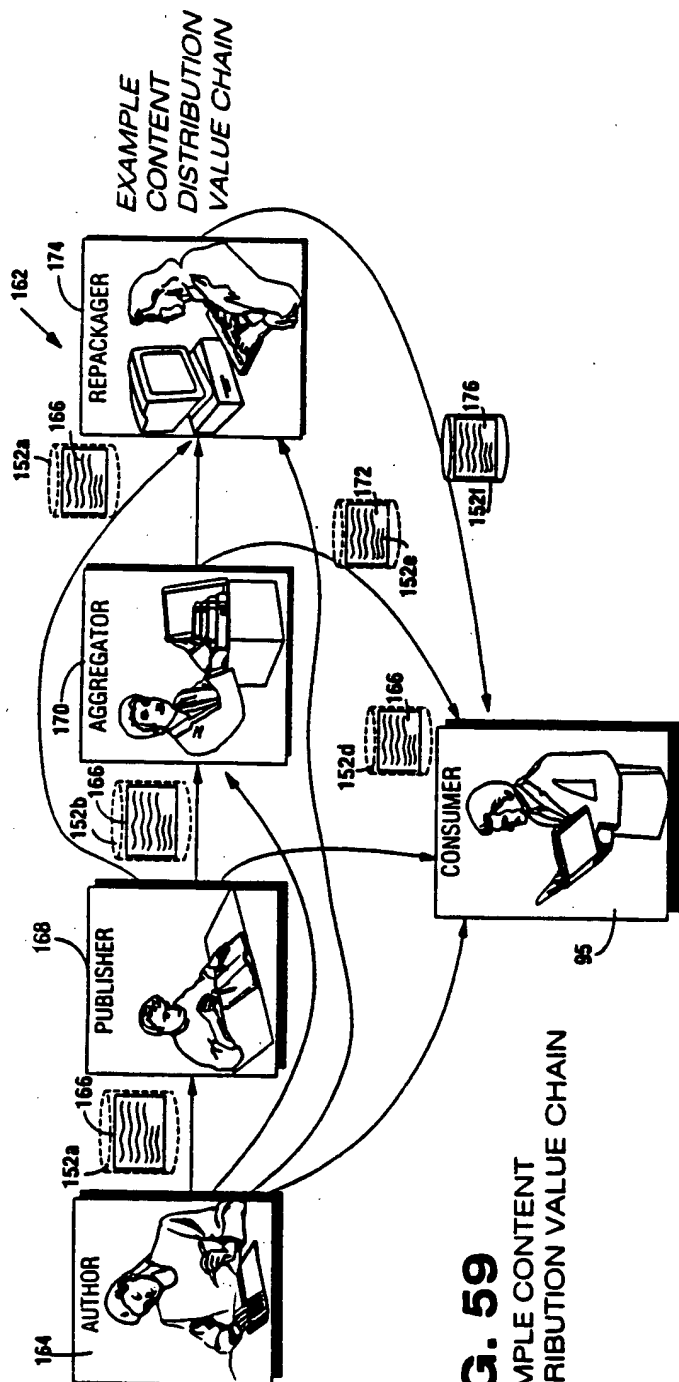
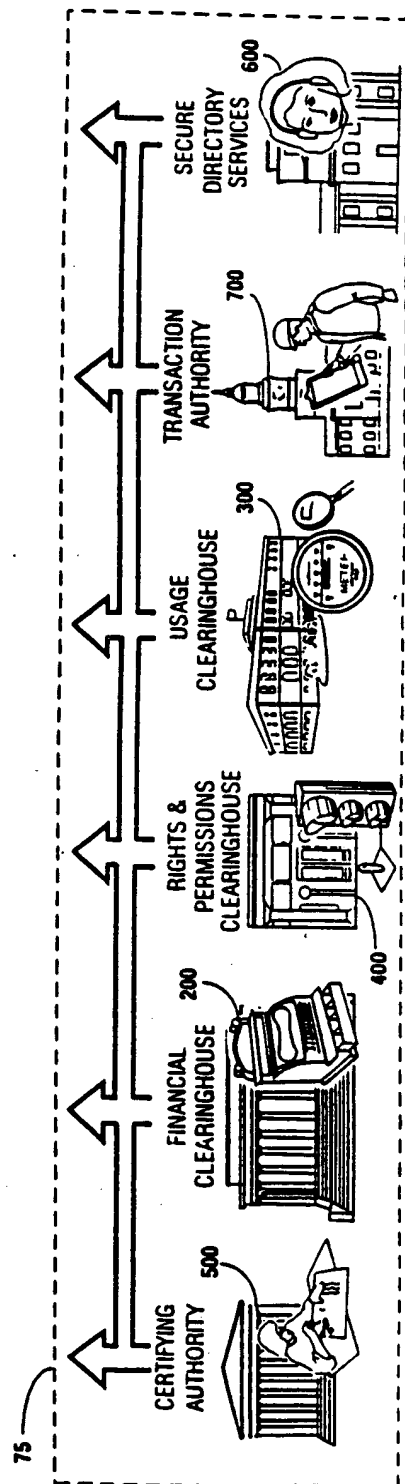


FIG. 59
EXAMPLE CONTENT
DISTRIBUTION VALUE CHAIN



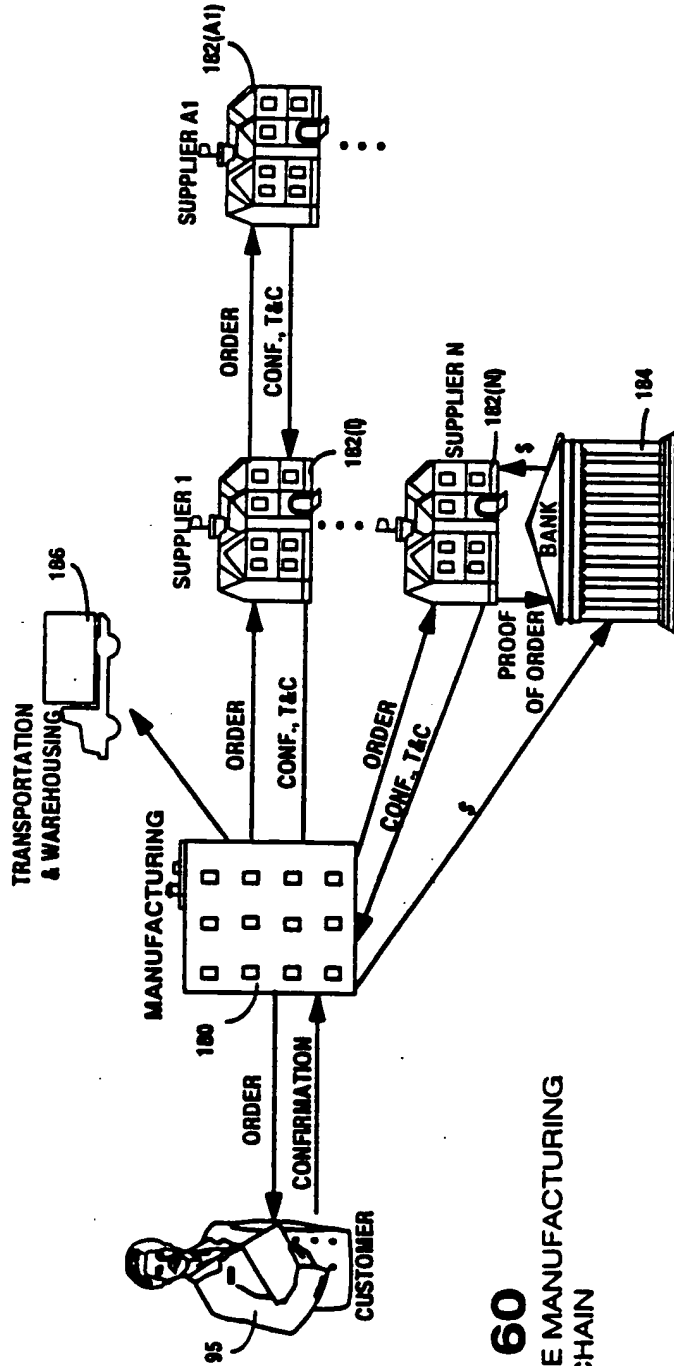
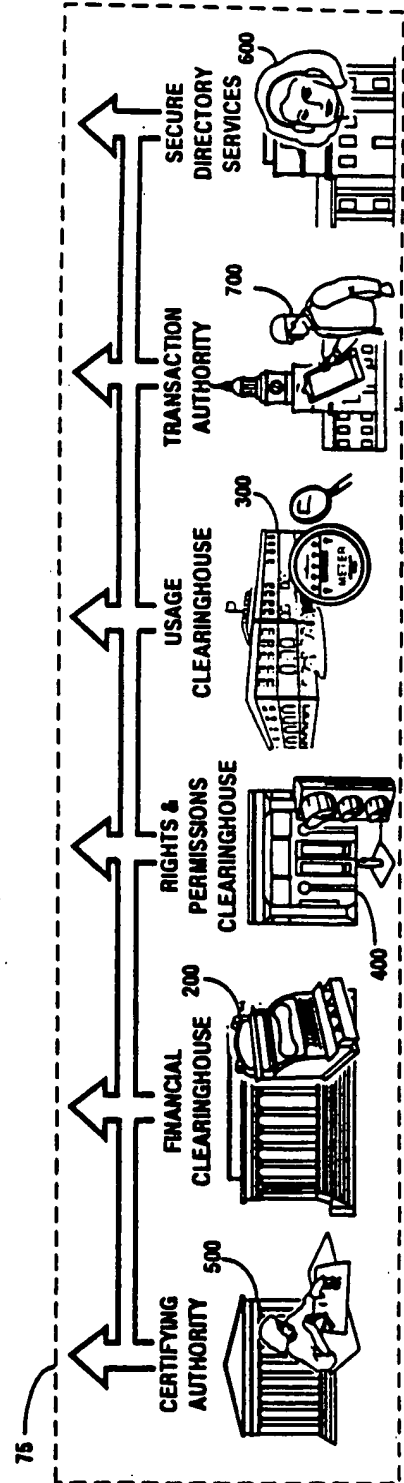


FIG. 60
EXAMPLE MANUFACTURING
VALUE CHAIN



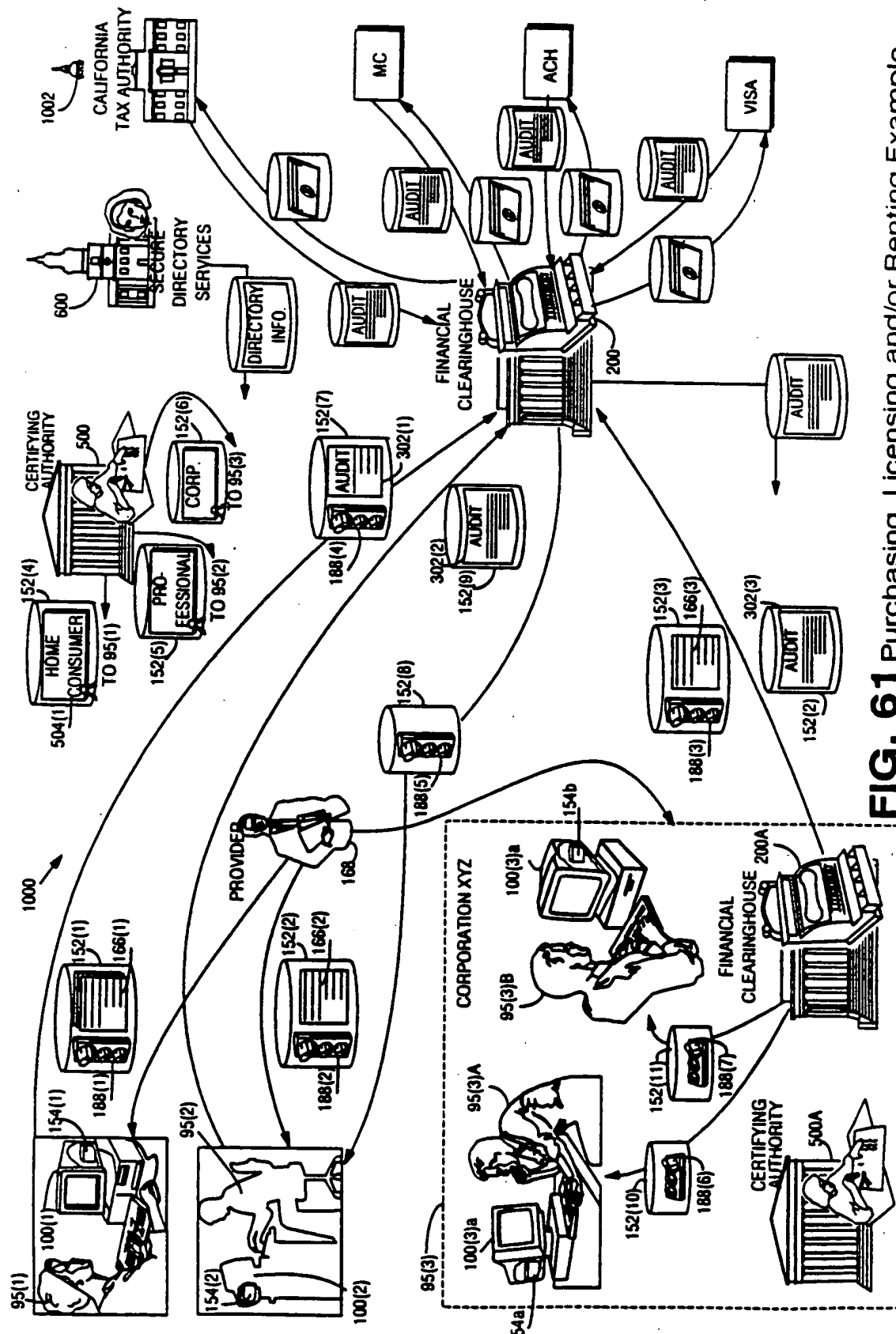


FIG. 62 Example Of Purchasing and Paying
For A Tangible Item

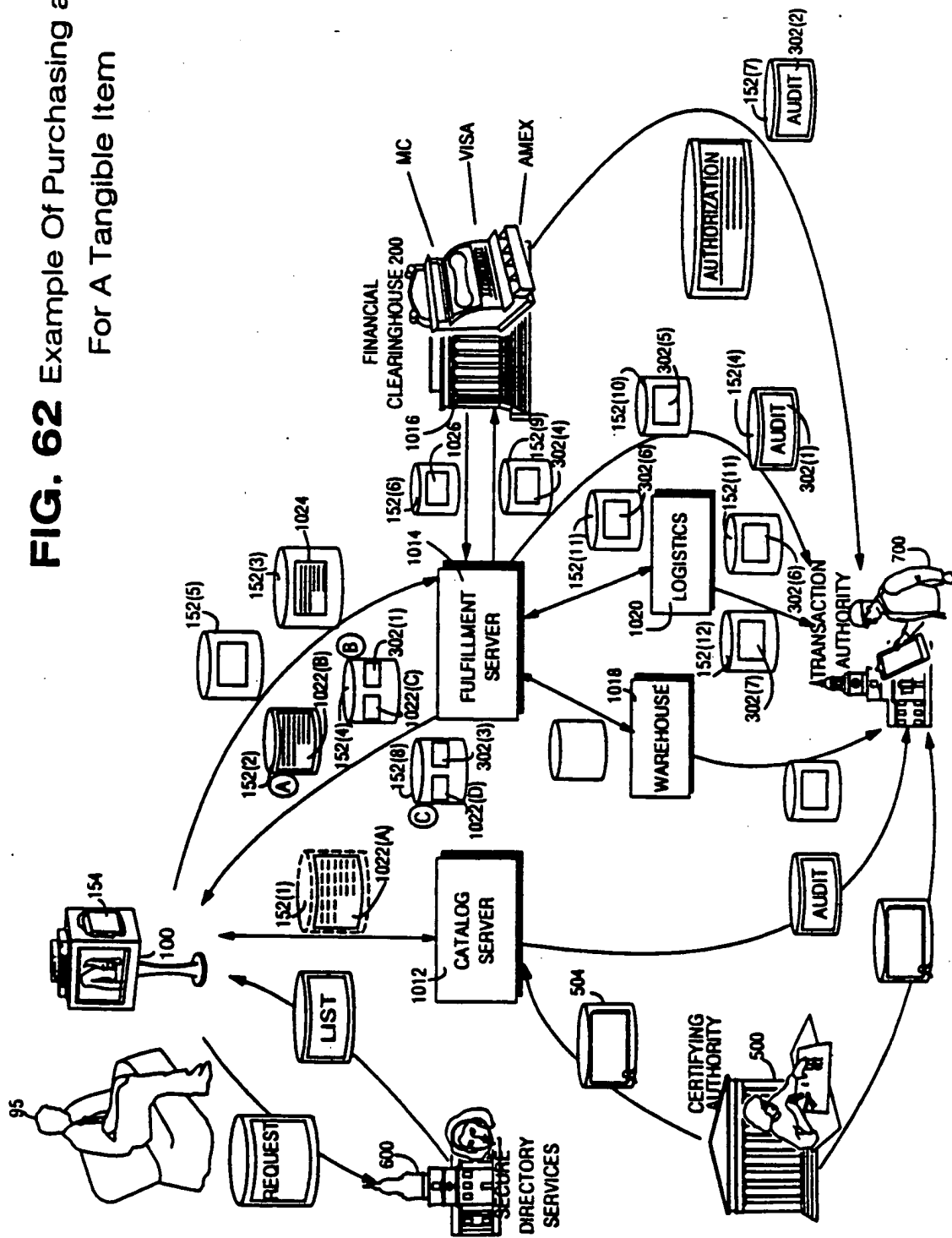


FIG. 63 Example: Customer Securely Pays For Services

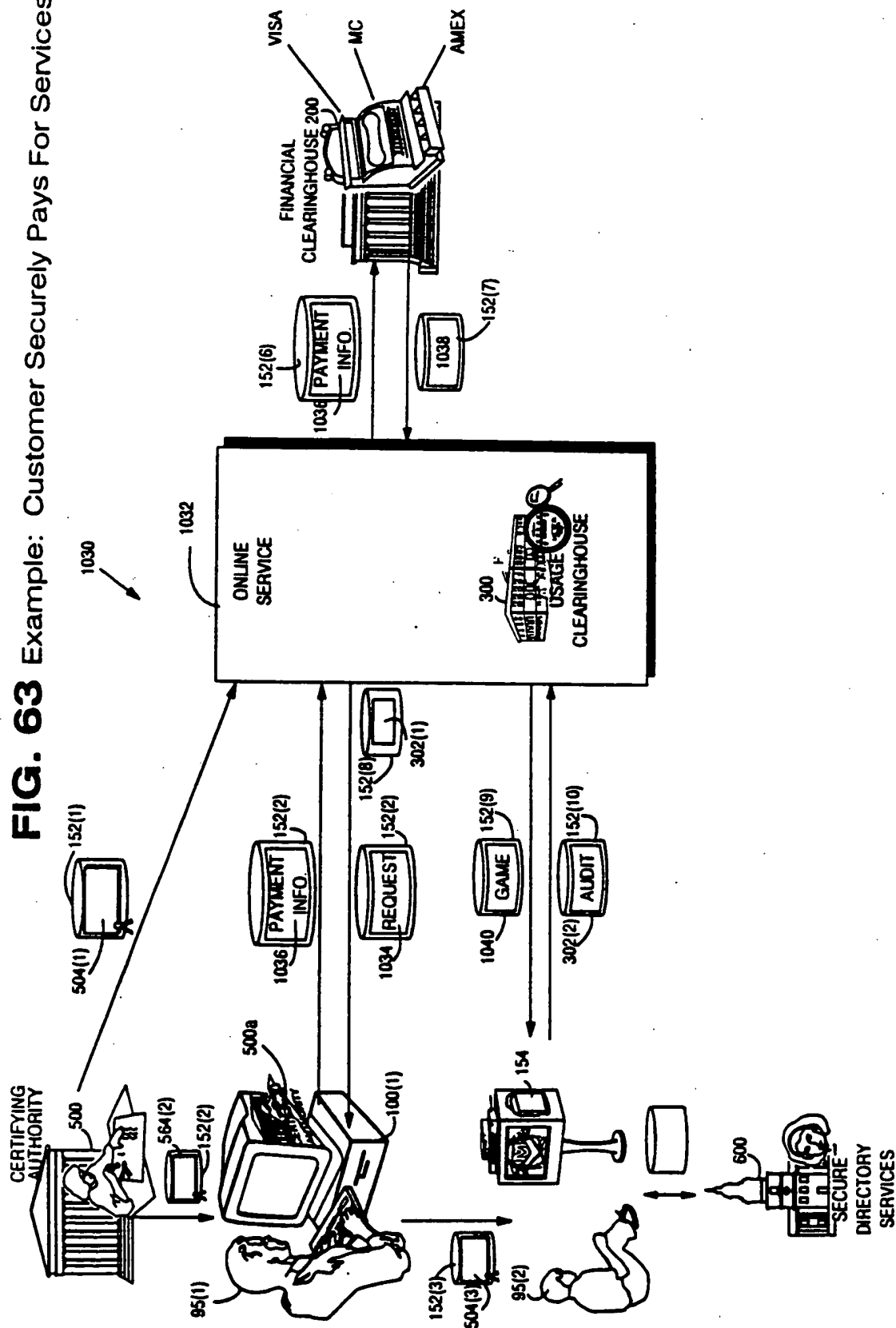
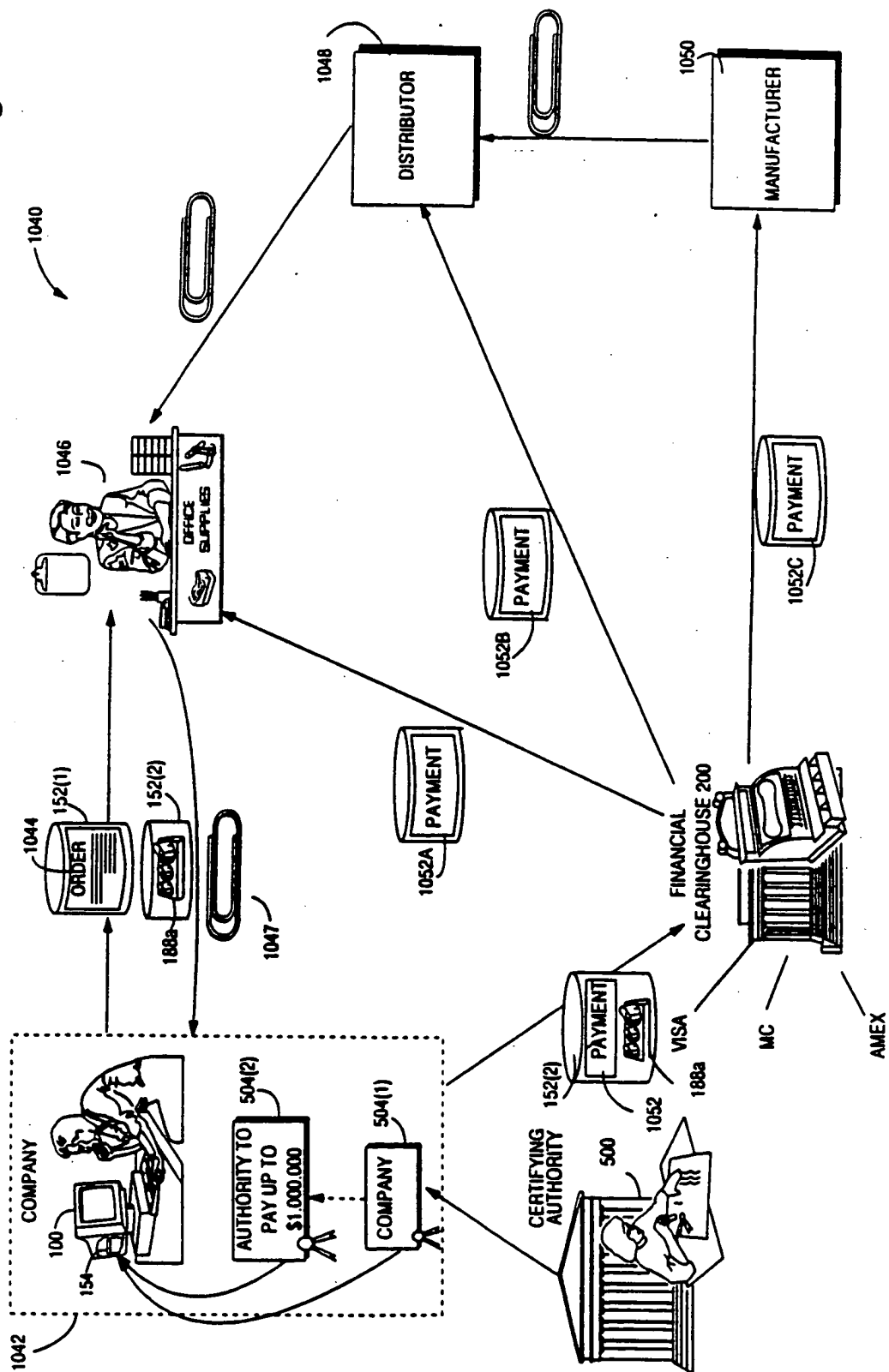


FIG. 64 Example Value Chain Disaggregation For Purchase of Tangibles



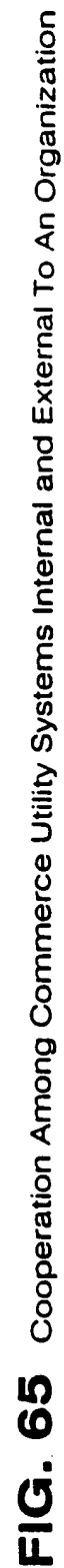


FIG. 65

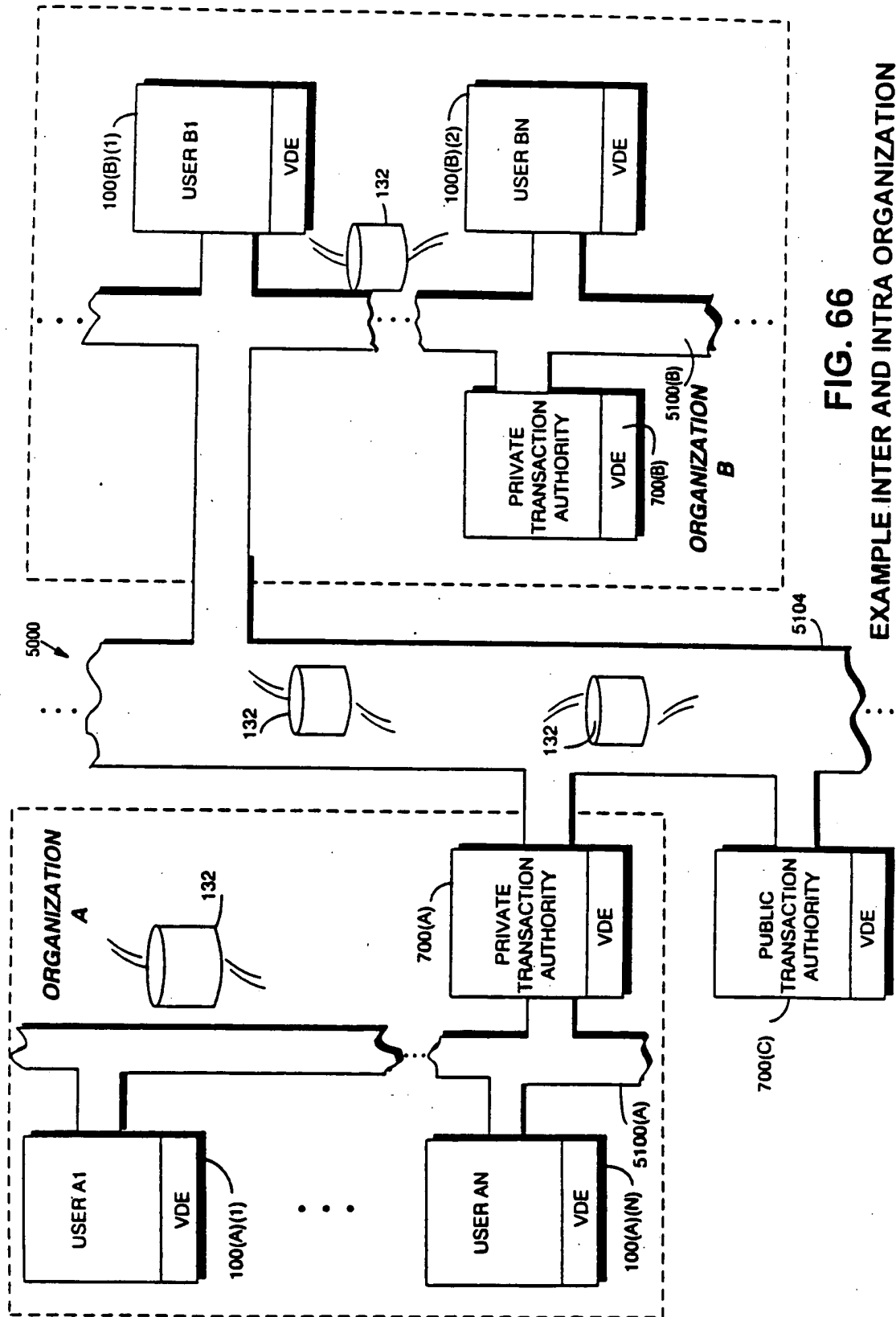


FIG. 66
EXAMPLE INTER AND INTRA ORGANIZATION

FIG. 67 is a schematic diagram of an international trading example. The diagram illustrates a central transaction authority (700) interacting with three regional trading hubs (1106A, 1106B, 1106C) and their respective local authorities (1108A, 1108B, 1108C). The hubs are connected to the central authority via communication links (152a, 152b, 152c). The local authorities are represented by classical building icons. The regional hubs are represented by modern building icons. The central authority is represented by a classical building icon with a dome. The diagram shows the flow of information and transactions between the central authority and the regional hubs, and between the regional hubs and their local authorities.

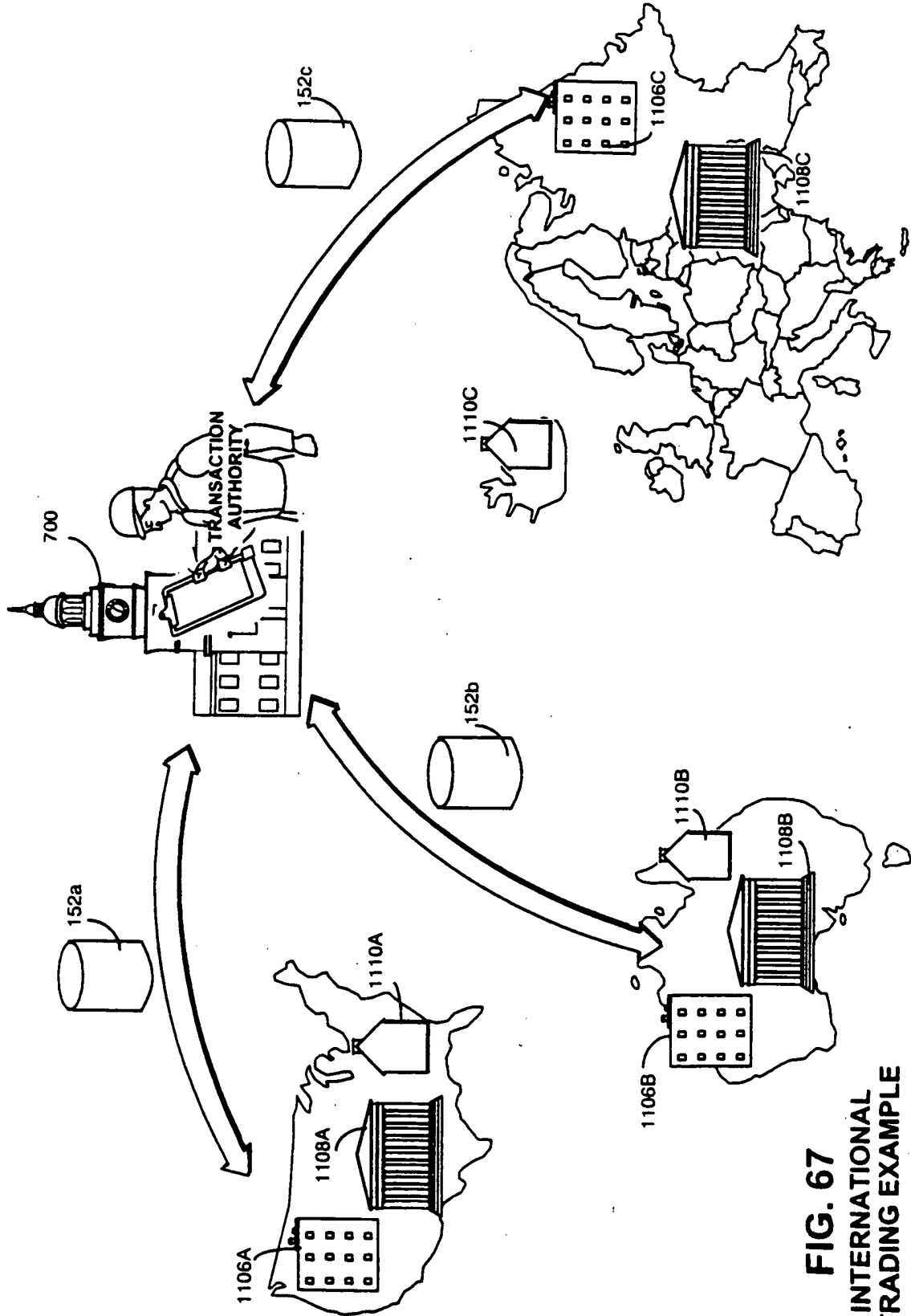


FIG. 67
INTERNATIONAL
TRADING EXAMPLE